

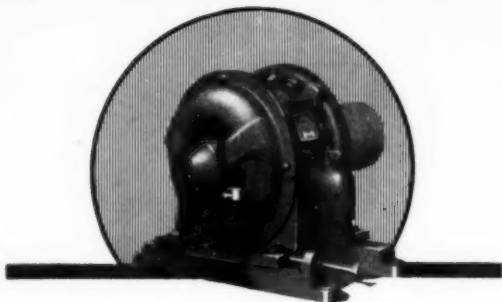
JULY 1925 ~ No 234

Monthly

Distributed Free to Machine Tool  
Users Everywhere in the United States and to  
Dealers in American Machinery Abroad

Published by  
**A.H. HITCHCOCK**  
1220-1235 Cordon Building  
Chicago

FOR INDEXES SEE LAST PAGES



## Type **AA**. RELIANCE Induction Motors

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Stator windings receive three full treatments of special insulating varnish thoroughly baked and followed by a fourth application of air-drying varnish.

This is one reason why you can rely upon Type AA Motors to give satisfactory service even in dirty locations.

**Reliance Electric & Engineering Co.**  
1050 Ivanhoe Road, Cleveland, Ohio

*Branches:*

BOSTON  
NEW YORK

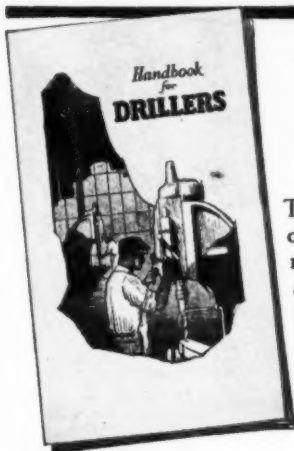
PHILADELPHIA  
PITTSBURGH

CHICAGO  
DETROIT

CINCINNATI  
BIRMINGHAM, ALA.

*We specialize in motors, sizes 1/2 to 200 h. p. constant and adjustable speed  
D. C.; squirrel cage and slip ring A. C.*

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## The A-B-C of Good Drilling Practice!

Thousands of copies of this booklet are mailed out annually all over the world, to men and boys interested in knowing the "why" as well as the "how" of twist drills and drilling.

May we send you a copy? It costs you nothing but a postcard and puts you under no obligation.

*Just ask for the "Handbook for Drillers."*

The **CLEVELAND** TWIST DRILL  
COMPANY  
CLEVELAND  
NEW YORK CHICAGO LONDON

TRADE MARK REG. U. S. PAT. OFF. AND FOREIGN COUNTRIES

*Manufacturers, also, of*

Carbon and High Speed Drills for every purpose; "Mezzo" Super-Carbon Drills; Hand, Jobbers' and Shell Reamers; "Peerless" High Speed Reamers; "Paradox" Adjustable Reamers; "Quick-Set" Reamers; Chucking Reamers for Turret Lathes; Counter-bores; Countersinks; Sockets; End Mills; and the "Ezy-Out" Screw Extractors.

# CLE♦FORGE

TRADE MARK REG. U. S. PAT. OFF.

## Cleveland Open Side Planers

Sizes—26' to 72'

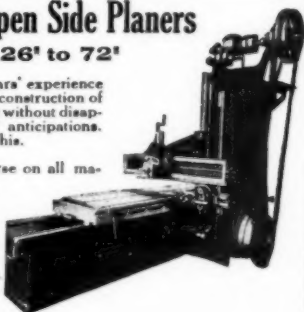
The result of 25 years' experience in the designing and construction of over 1050 Planers, yet without disappointing purchasers' anticipations. Repeat orders show this.

Power Rapid Traverse on all machines 42' and larger.

Aluminum Drive Pulleys.

Self-oiling bushings throughout the Drive.

Ball Bearing Counter-shafts.



*Send for descriptive circular.*

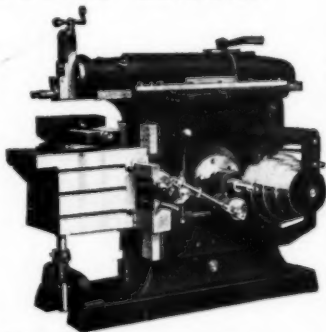
**The Cleveland Planer Co.,** 3148 Superior Ave., N. E.,  
CLEVELAND, OHIO  
*Established in 1900*

## SHAPERS

12", 14", 16"  
Plain Crank,  
16", 20", 25"  
B. G. Crank,  
either Cone  
Driven or  
through Speed  
Box.

Belt Shifter  
Regular Equip-  
ment All Cone  
Driven Shapers.

32" Back Gear-  
ed Crank, Sin-  
gle Pulley  
Drive.



**The Smith & Mills Co., Cincinnati, O., U.S.A.**



## Drill Automatically —



Kingsbury Vertical Drilling Machine with No. 82 Universal Fixture

- OPERATOR:**
1. Inserts blank, simultaneously engaging power feed.
  2. Picks up fresh blank.
- MACHINE:**
1. Automatically clamps work.
  2. Drills work under uniform pressure with friction control absolutely with as coarse a feed as the tool will stand.
  3. Unclamps and ejects work.
  4. Stops until operator inserts fresh piece.

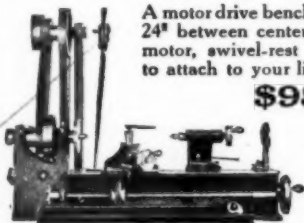
This is a machine for short run jobs where production counts

*Write for catalogue of production drillers*

**Kingsbury Manufacturing Co., - Keene, N. H.**

## Just-Rite Lathes

Made in Sizes from 10-in. to 20-in.



A motor drive bench lathe, 10" swing, 24" between centers, complete with motor, swivel-rest and pan, ready to attach to your light socket.

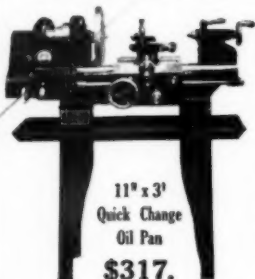
**\$98**

**JUST-RITE**  
for turning,  
boring, mill-  
ing and drill-  
ing (not screw  
cutting).

Order one by express. Weight, 230 lbs.

**A. V. Carroll Machine Tool Co.,** Norwood,  
Cincinnati, O.

## Monarch Jr. Lathes



11" x 3'  
Quick Change  
Oil Pan

**\$317.**

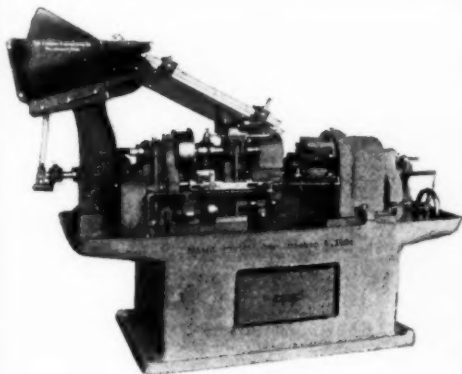
are the smallest members  
of the Monarch lathe  
family. Yet they are the  
"biggest little lathes" built.

The Monarch line of  
lathes includes all sizes  
and types from the little  
9-inch Junior lathe to the  
big, massive 30-in. lathe.  
In this line there is a lathe  
to fill your requirements at  
the price you want to pay.

*Send for Catalog*

**The Monarch Machine Tool Co.**

206 Oak Street, Sidney, Ohio



**USE  
ECONOMY COMBINED  
POINTING AND  
THREADING MACHINE  
TO REDUCE  
BOLT COSTS**

**The  
Economy Engineering Company  
WILLOUGHBY, OHIO**



**\$765**



15"x6'  
Geared  
Head  
Lathe,  
Single  
Friction  
Pulley  
Drive,  
without  
Motor.

*Write for details  
ON OUR NEW*

**Gold Seal Lathes**

**The Sebastian Lathe Company**  
1000 Culvert St., Cincinnati, O., U. S. A.

## NOTICE—

*To USERS Of*

## “Advance” Lathes

**Formerly made at Milwaukee, Wis.**

We have purchased the entire outfit  
for building these Lathes, and are  
prepared to give service on repair  
parts, etc.

**The Carroll & Jamieson Machine Tool Co.**  
Batavia, Ohio

# "Profits from Small Lot Production"



**This booklet is a study of  
successful "small lot" methods.**

**A copy is yours for the asking.**

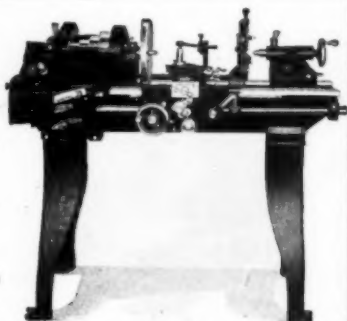
**The Warner & Swasey Co.**  
**Cleveland, Ohio, U. S. A.**

New York: Singer Building  
Boston: Chamber of Commerce Bldg.  
Philadelphia: 518 Springfield Ave.  
Chicago: 618 Washington Boulevard  
Milwaukee: 1143 Wells Building

Cleveland: 5701 Carnegie Avenue  
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## Here It Is!

Our 11"x4'  
Quick Change  
Gear Lathe,  
the heaviest  
lathe of this  
swing built  
today. Has  
semi-double  
wall apron with  
all-steel gears.



Get our prices on this and other Sidney Lathes  
Send for catalog. Address Dept. 1807.

**The Sidney Machine Tool Co.**  
Sidney, Ohio

## Barker Wrenchless Chuck

*Developed and Manufactured by Thomas Elevator Co.*

A complete Chucking Unit in  
Itself. The Barker Wrench-  
less Chuck requires No Ac-  
cessory Installations.

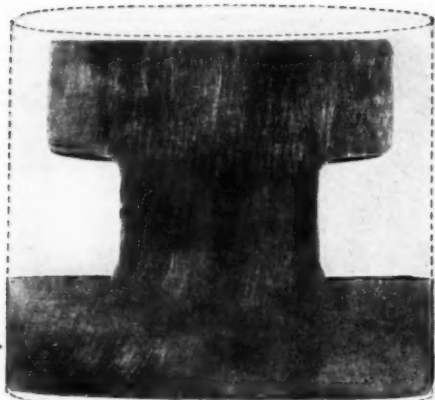


Made in two- and three-jaw  
styles, for every kind of tur-  
ret lathe, automatic, and  
semi-automatic machine work.

**Thomas Elevator Co.**

Chuck Division

31 So. Hoyne Ave., Chicago



## **Saved 45% in Weight** **On This AmForged Tractor Cluster Gear**

Customer formerly turned this cluster gear from a 6-inch length of 7-inch round, weighing 65½ lbs.

We now *Upset* it from a 17½-inch length of 3-inch round, weighing 35 lbs.

A saving of 30½ lbs. of steel on each piece—45% less steel!

And think of the vast saving in shop-labor accomplished by the true-to-dimensions Upset Forging!

Upset Forgings not only greatly reduce costs, but they are also better forgings, from every standpoint.

### **Ask For Our NEW BOOK**

of Forgings—a liberal education in money-saving efficiency to every user of forgings whose work lends itself to the Upsetting Process.

*Send blue prints for estimates*

**AMERICAN FORGE CO.**  
2631 So. Hoyne Ave., CHICAGO





Threading Tool



Right Hand Off-Set Side Tool



Right Hand Turning Tool

## ARMSTRONG Tool Holders

*They Save—*

High Speed Steel, 90%

Grinding, ----- 70%

Forging, ----- 100%

Over 100 tools for  
Lathe, Planer, Shaper,  
Slotter, etc.

*Get the free Catalog*

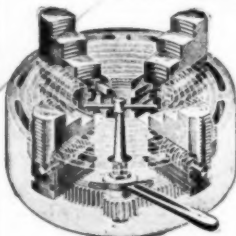


**Armstrong Bros. Tool Co.**

"The Tool Holder People"

308 N. Francisco Ave., Chicago, U. S. A.

## Why Have Two Kinds of Chucks?



Now that the Westcott Spur Geared Combination Chuck has the combined features of an independent and universal chuck, why continue to buy both types for your plant? Save the cost of one extra chuck by getting a Westcott Combination. The extra strength, greater capacity, flexibility, and the perfect adjustment make Westcotts the choice of thousands of plants.

*Why not get our catalog?  
Write for a copy today*

**WESTCOTT** Walnut St.,  
**CHUCK CO.** ONEIDA, N. Y.





**If you ever ran a lathe it has surely happened to you. It continues to happen daily in almost all shops.**

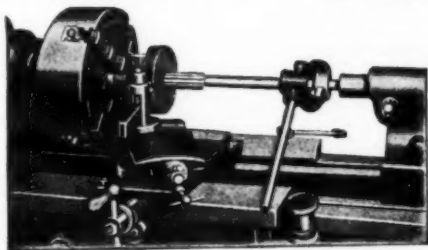
Until the Nicholson Reamer Holder was invented there was no other method by which a mechanic could keep his reamer from jumping in, or prevent it from reaming a tapered hole. This Holder can also be used instead of a chuck for drills and as a hold back in a lathe. It has many uses and saves double its cost in a short time. No. 1 size takes straight shank reamers and drills up to 1" dia., and No. 2 takes up to 2" in dia.

Send us sketch of socket or number of Morse taper of lathe you would like to try one on, and we will send it on trial. If you desire further information and circular, write us.

**W. H. Nicholson & Company**

117 Oregon Street,

Wilkes-Barre, Pa.



## Kind of thread on lead screw

Square	Acme	V
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□ □ □

Right Hand \_\_\_\_\_ ☐Left Hand..... ☐Number of threads... 

Give distance from top of carriage to center of lead screw ( )

### New device lowers cost of thread cutting on engine lathes.

**Sent on 30 days' trial**

JAMES M. COLVEN

No stopping or reversing lathe.  
For all sizes lathes. Saves backing belt.

**Of Hardinge Standardized Draw-in Chucks or Collets  
All Standard Sizes, for All Makes of Lathes**



Just write us  
the make and  
swing of your  
Lathe—  
we'll do the  
rest.

***Always in stock for prompt shipment***

For Bench Lathes, Engine Lathes, Tool Room Lathes, also for Bench Type Milling Machines and Screw Machines. Buy where you can get reliable tools from a reliable source of supply.

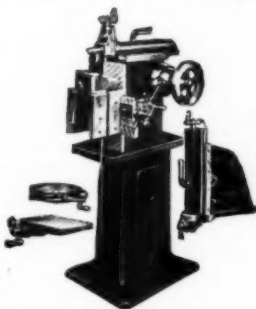
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**HARDINGE BROTHERS, Inc., 4149 Ravenswood Av. CHICAGO**



## An ECONOMY For EVERY Shop

7 in.  
Shaper  
Stroke



3½ in.  
Slotter  
Stroke

### The Rhodes Shaper and Slotter

SMALL TOOLS for small work is always an economy, providing only that the small tools are equally efficient.

THE RHODES Shaper and Slotter has the construction, accuracy and operating convenience of the larger machines. The only material difference is in size and cost.

FIRST COST is so reduced as to bring it within the reach of every shop, and it is handier and more economical in operation on dies, tools, and all shaping and slotting within its capacity.

*Ask your dealer or write for  
CATALOG H22*

**The Rhodes Mfg. Company**  
948 Park Road,                      Hartford, Conn.

—SHAPERS—RHODES—SLOTTERS—

# The BARKER GENERAL PURPOSE VISE

For Planers, Shapers, Drilling and Milling Machines



## Two Sizes

Width of jaws 11½" - 12"  
Depth of jaws 2½" - 3"  
Jaws open 8" - 12"  
Weight 180 - 210 lbs.

Also 16" Mold Makers' Vise

OUR MOLD MAKERS' VISE has 13" width of jaws, 7" depth, and jaws open 16" - weight 290 lbs.

ALL BARKER VISES are made extra heavy, with steel faced jaws, and are graduated to swivel any angle. They stand lots of hard usage.

Get in touch with us before buying

**WM. BARKER & CO.**

Manufacturer of Machine Tools,

COVINGTON, KY.

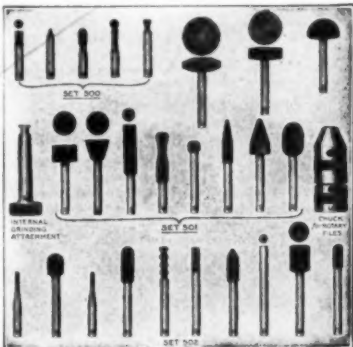


## Strand Rotary Files

Used with Strand Flexible Shaft Machines. Are giving excellent service.

Write for Catalog  
N. A. Strand & Co.  
5001 No. Lincoln St.  
CHICAGO

## HIGH SPEED HAND CUT ROTARY FILES



# LeBLOND Patent Belt Shifter



A necessary safety factor and a valuable production increasing feature. It is applicable to any cone pulley driven machine tool.

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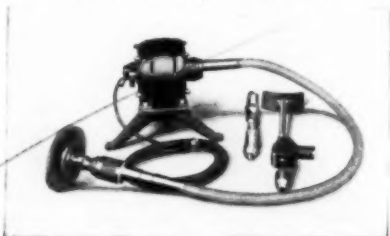
**THE R. K. LeBLOND MACHINE  
TOOL COMPANY**

CINCINNATI

OHIO

## **The Whirlwind Buffer and Grinder**

**Will cut the cost on any unhandy  
grinding or polishing job**



*Send for our latest bulletin*

**Stow Flexible Shaft Co.,** 3454 Ludlow St.,  
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*The Best Since 1876*

## **Steel Bearing Balls**

**Brass, Bronze, Aluminum  
and Monel Metal Balls**

**Steel  
Burnishing  
Balls**



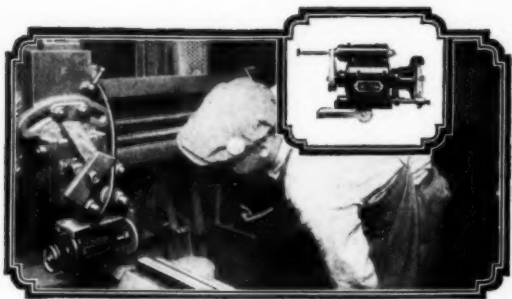
**Burnishing  
Cones**

**Burnishing  
Pins**

**Immediate Shipments from Stock**

**Ask for Price List 23-H**

**The Abbott Ball Company**  
Elmwood District,      Hartford, Conn.



## Helping Willys-Overland Take America Off Its Feet

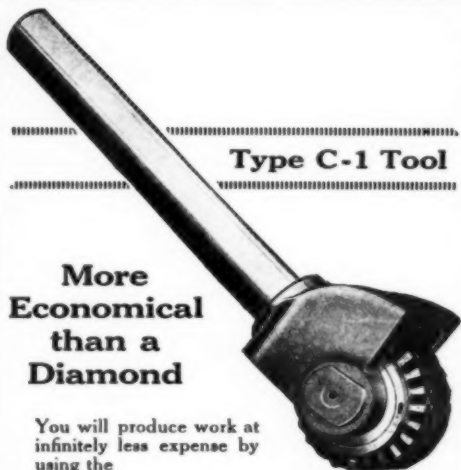
**I**N THE Willys-Overland plant at Toledo, Dumore grinders play an important part. How well they fulfill every demand made of them—how accurate and adaptable they are for all varieties of grinding work, is convincingly illustrated in the hood panel forming—die grinding job pictured above. And when you consider that this is but one of many difficult operations successfully handled by Dumore grinders at the Willys-Overland works, you'll agree that these efficient tools assist materially in "taking America off its feet."

It is reasonable to assume that what Dumore grinders can do for Willys-Overland they can do for any other manufacturer. Six distinct styles of Dumore grinders, each with individual speed ranges, provide a grinder with the correct cutting speed for any grinding need. Dynamically balanced armatures and selected ball bearings in Dumore grinder motors eliminate vibration—permitting maintenance of grinding limits as close as .0001, without taper, bell-mouth or chatter marks. Operating on alternating or direct current, they are especially useful in shops supplied with two varieties of power current. Portable, they save the cost of tearing down expensive set-ups.

Why not find out what they can do for you? Our new catalog tells an interesting story of Dumore grinders and their uses. By asking for it *today* you'll get it quicker than by delaying until tomorrow. Write now!

Wisconsin Electric Co., 43 Sixteenth St., Racine, Wis.

# DUMORE HIGH SPEED GRINDERS



**Type C-1 Tool**

**More  
Economical  
than a  
Diamond**

You will produce work at  
infinitely less expense by  
using the

**“Precision” Roughing  
and Semi-Finishing  
Wheel Truing Tool**

Not a substitute for the diamond, but built on  
an entirely different principle, which is an im-  
provement over the diamond in that it pro-  
duces work equal or better than that of the  
diamond, and at a greatly reduced cost.

**It will pay you to put Precision  
Wheel Truing Tools to a test.**

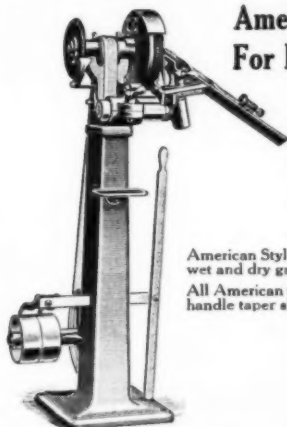
*Ask for descriptive booklet*

**The Precision Truing Machine & Tool Co.  
CINCINNATI, OHIO**



# La Salle Grinders

**American Style C T A  
For Dry Grinding Only**



Unexcelled as a dry grinder for twist drills. Extra large drill holder has capacity from 1" to 3½".

American Style W T A is arranged for both wet and dry grinding.

All American Grinders are now equipped to handle taper shank drills.

## No. 1 Plain and Surface Grinder

(Micrometer Adjustment)

Grinding wheels.....	8"x1"
Between wheels.....	15"
Height to spindle center.....	40"
Table surface.....	8"x14"

Has vertical travel of 12" on guides, ¾" by micrometer, and may be raised to within 2" of spindle center. Wheel grinds to center of a surface 9" wide.

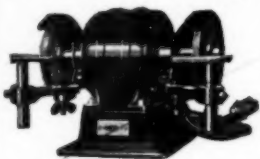


*Let us know your grinding requirements*

## LaSalle Tool Company

LaSalle, Illinois, U. S. A.

**Make It Easy** For your workmen to keep your tools sharp



**A BODINE  
Portable Electric  
TOOL GRINDER**

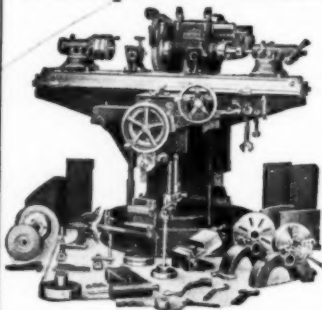
—placed in every department of your plant is a big aid in keeping production at its maximum.

"BODINES" are highly specialized machines for putting the keenest cutting edge on tools in the shortest time. When placed in handy locations throughout the plant, it always results in sharper tools and better production.

"BODINES" are equipped with Norma precision ball bearings, heavy wheel guards, tool rests adjustable to any position, an ideal oiling system, etc., etc. Write for a copy of "*Eight Outstanding Advantages.*"

**The Bodine Electric Company**  
2256 West Ohio St., Chicago, Ill.

**Thompson UNIVERSAL Grinder**



Does practically every kind of grinding accurately, quickly and economically—plain, surface, edge, die, cutter and internal.

The work adjusts to a fixed grinding wheel. Capacity 10"x36".

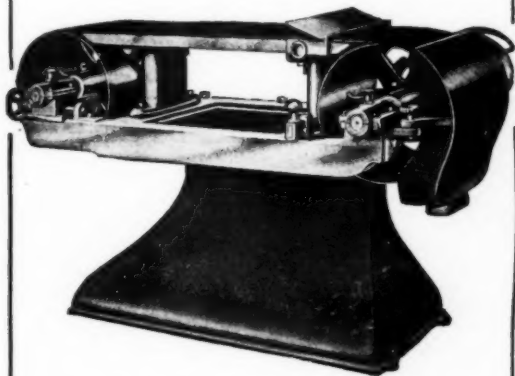
Write for Bulletin and prices today

**Manufactured By**  
**THE THOMPSON GRINDER CO., - Springfield, Ohio**

# PEERLESS SURFACING MACHINES

Will reduce grinding and finishing costs  
and give you better work.

Can be substituted for many expensive  
milling machine and planer operations.

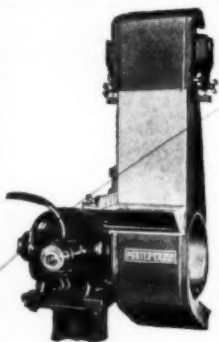


Made also in vertical and bench models.

*Send for large folder*

**PEERLESS SURFACING MACHINE CO., Inc.**  
**TROY, N. Y.**

In Canada: A. R. WILLIAMS MACHINERY CO., Toronto



**Grinds  
Polishes  
Bufs  
Sands  
Metal or Wood**

PORTER-CABLE BELT GRINDER operates in a horizontal or vertical position from lamp socket.

*Write for details*

**PORTER-CABLE**

**Machine Company**  
Syracuse, N. Y.

**SEND BLUEPRINTS for Quotations on  
Hollow Bored Forgings  
and Steel Shafts**



**Piston Rods  
Clutch Shafts  
Lathe Spindles**

**Rams  
Steel Pipes  
Etc., Etc.**

*You'll be pleased with our service*

**American Hollow Boring Co.**  
Erie, Penna.

# Grand Rapids Universal Grinder

*MOTOR DRIVEN*

**With All Overhead Works Eliminated**



**GRAND RAPIDS No. 3 & No. 4 Universal Grinders**  
are furnished either hand feed or power feed,  
wet or dry, motor drive or belt drive.

CIRCULAR ON REQUEST

**Gallmeyer & Livingston Co.**  
342 Straight Avenue, S. W.  
GRAND RAPIDS, MICH.

# Steel Spacing Washers—

Made of a good grade of Cold Rolled Strip Steel, also known as Shim Steel



Stock sizes for arbors of following diameters:  $\frac{3}{8}$ ,  $\frac{1}{2}$ ,  $\frac{5}{8}$ ,  $\frac{3}{4}$ ,  $\frac{7}{8}$ , 1,  $1\frac{1}{8}$ ,  $1\frac{1}{4}$ ,  $1\frac{3}{8}$ ,  $1\frac{1}{2}$ ,  $1\frac{7}{8}$ ,  $1\frac{3}{4}$ ,  $1\frac{7}{8}$ , 2,  $2\frac{1}{4}$ ,  $2\frac{1}{2}$ , 3,  $3\frac{1}{2}$  and 4 in. and larger.

Stock thicknesses: .002, .003, .004, .005, .006, .007, .008, .010, .012, .015, .020, .025, .032, .047, .063, .093 and .125 inch.

Other thicknesses up to 3.000" made to order, with keyways if so ordered.

Ask us to send samples; you'll like them

**Detroit Stamping Company**  
3443 West Fort St., Detroit, Mich.

## Save Time Setting Gang Milling Cutters

Eliminate  
Thin  
Washers



Hardened  
and  
Ground

PATENTED

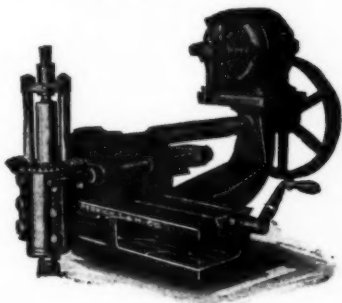
"Wear-Ever" Adjustable Spacing Collars permit setting cutters to the thousandth part of an inch without removing from the arbor.

Stock sizes for  $\frac{3}{4}$ " to  $2\frac{1}{2}$ " arbors, sent on approval  
They are adjustable in 12 steps of  $2/1000$  inches

**SCULLY-JONES & CO. TOOL DIVISION**  
13th and Robey Streets CHICAGO, ILL.

*Without a Pedrick*  
**Portable Milling Machine**

**You Often Pay Its Price  
In Delay On One Job**



To appreciate its value just add the savings you could effect in a year by taking this handy, ever-ready tool to the job instead of bringing the job to the tool, then subtract the price. Result—net earning power.

**You need this Pedrick Miller to do those big jobs that your standard machines cannot handle.**

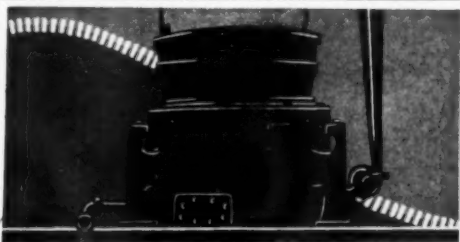
Catalogue explains all its various operations—  
a comprehensive book of reference and key  
to manifold savings. Your copy is waiting—  
shall we send it now?

**Pedrick Tool & Machine Co.**

Headquarters for Portable Machine Tools  
Boring Bars, Crank Pin Turners, Pipe Benders, etc.

**3644 N. Lawrence St.,**

**Philadelphia, Pa.**



**Save  
Cutting  
Oil!**

6 to 15 gallons per load—  
three or four loads per  
hour. *Write for catalog.*

**Tolhurst Machine Works**  
Troy, N. Y.



Style "WC"



Style "O"



The Hinge



Style "G"



Style "A"

**Gits Gravity and Wire Wick  
Feed Oilers**

**Gravity Feed**—flushes  
the bearing.  
**Wire Wick Feed**—gives  
desired prolonged feed.  
**Wire Wick**—replaces  
waste or felt.  
Made in Standard sizes.



Style "L"

**Write for Catalog  
No. 20**

Showing 255 full size  
illustrations with detail  
dimensions.

**GITS OIL CUPS**

Oil cups for every lubricating  
need. State style and size in  
which you are interested, and we  
will send free samples and catalog.



Style "U"

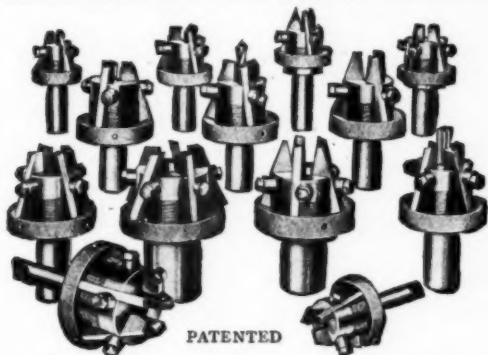
**GITS BROS. MFG. CO**  
1940 SO. KILBOURN AVE., CHICAGO



Style "T"



# Genesee Hollow Mills



## With Adjustable, Replaceable Blades

**The Ideal Tools** for finishing forgings, castings, etc. They can be adjusted to the 1000th of an inch in a few minutes, and are designed to utilize machines to their full capacity. When worn, the blades can be replaced at very small cost. This makes the buying of new tools unnecessary.

**They Can Be Fitted** with drills and reamers, have formed blades, etc. Blades can be ground any angle to point work and turn short tapers. They cut up to 15" a minute in steel, are stronger than solid tools, and cannot change in size.

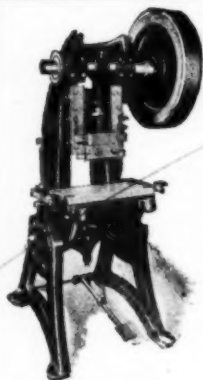
**Only Seven Sizes** cover all work from  $\frac{1}{8}$ " to 2". The Genesee is now made in six different styles, from the heavy roughing Style "B" to the accurate finishing Style "F." We also make Style "N" Mills for all Brown & Sharpe automatics. We can make special size and style Hollow Mills to your order.

*As all round cost reducers Genesee Mills are a revelation to users everywhere. We invite your correspondence*

**Genesee Manufacturing Co., Inc.**  
**Rochester, N. Y., U. S. A.**

*Manufacturers of Genesee Rapid Production Tools.*

*Est. 1908*



Trade **Verson** Mark

## No. 3 O. B. I. PUNCH PRESS

Weight 2200 lbs.

Standard Equipment

Includes the

Following Features:

Non-Repeat Safety.

Safety Lock for use while setting dies.

5-Inch Jaw Clutch.

2 $\frac{3}{4}$ " Diam. Crankshaft.

Ball Socket Slide Connection.

Cross Bar Knock-out.

Hand Wheel Inclining Attachment.

*Wire for Catalogue*

**La Salle Machine Works** 3013 S. La Salle St.,  
CHICAGO, ILL.

## There with the Punch

Great Power backed by  
heavy rugged design enable

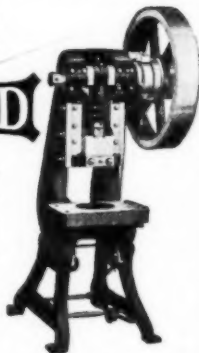
HIGH DUTY  
**ROCKFORD**  
PUNCH PRESSES

to out-punch and out-work  
any press of their capacity.

Their punch-ability and  
accuracy will surprise you.

*Write for catalog*

**Rockford Iron Works**  
ROCKFORD, ILL.



## Strong, Durable, Dependable Hack Saws for General Work, and Low In Price



**Marvel No. 1 Hack Saw**  
**Capacity 4"x4"**

A splendid, efficient saw for use where large capacity is not essential. Order now.



**MARVEL No. 2** hack saw with swivel vise that swivels both ways, right or left, and has adjustable stroke.

**CAPACITY:**  $\left\{ \begin{array}{l} 6' \times 6' \text{ on long stroke.} \\ 8' \times 8' \text{ on short stroke.} \end{array} \right.$

The ideal saw for all around general work. Place your order with us today.

*Both these saws can also be furnished motor driven*

**Armstrong-Blum Mfg. Co.**  
341 N. Francisco Ave., CHICAGO, ILL.

## Can Save 5 Hours a Day—

### Peter Bros. Abrasive Metal Cutter

IF KEPT BUSY, this fast machine will save you a lot of valuable time. Cuts quickly and accurately, square or otherwise, at option of operator. Eliminates nicking and breaking, prevents waste of stock. Equally good with high speed steel, angles, channels, tees, brass or iron. Doesn't draw the temper.

8" Size \$22.50, with C. S. Splendid for tool room. Cuts all high-speed steel up to  $\frac{5}{8}$ " square.

12" Size \$60, with C. S. Cuts up to  $2\frac{1}{4}$ " diameter, round or square, at any angle up to 45 degrees. Ball bearing.

**15 Days' Free Trial**

Write us or ask your dealer

**PETER BROTHERS MFG. CO.**  
115 Railroad St., Algonquin, Ill.



## This Free Chart

### The Correct Guide in Cutting

Your request on your letterhead will bring this authoritative chart.

### RACINE "JUNIOR"

Portable High Speed Metal Cutting Machine, easily moved to any location near electric light socket. Smooth, vibrationless, need not be bolted to floor. Normal capacity 0 to 4".

Use "Racine" H. S. Wood and Metal Band Saw Blades & "Racine" H. S. Tungsten Power and Hand Hack Saw Blades. *Catalog H.*

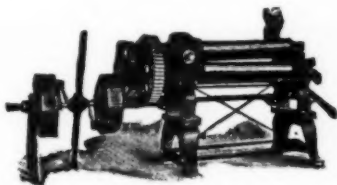
### Racine Tool & Machine Co.

1429 Junction Av., Racine, Wis.  
"STANDARD THE WORLD OVER"



Belt or  
Motor  
Driven.

Positive  
Lift  
Draw  
Cut.



# BELOIT

INITIAL TYPE

## Sheet & Plate Bending Rolls

---

The Beloit Initial Type Rolls are built in a large number of sizes and capacities, and for a great variety of work.

The modern design of the Beloit Rolls of this type makes it possible for the operator to curve plates completely to the edge, thus getting away from the undesirable flat near the edge of the sheet.

The quick-acting cam lever device raises the top roll for the removal of completed cylinders.

Individual and simultaneous adjustment of both ends of the forming roll can be furnished, and the machine can be arranged for third roll drive, when necessary.

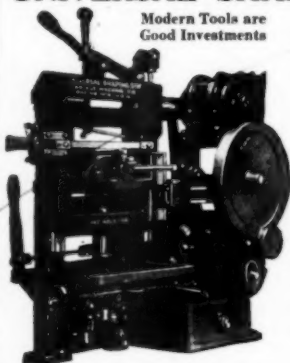
Those in the market for Bending Rolls cannot afford to fail to give us their specifications, and to get our quotations.

*We solicit your inquiries for Bending Rolls, either Initial Type as shown above, or the Pyramid Type machine, as well as for Punching and Shearing Machinery, both hand and power.*

---

**Hendley & Whittemore Co.**  
100 S. State St.,                      BELOIT, WIS.

## -PEERLESS- UNIVERSAL SHAPING SAW



Modern Tools are  
Good Investments

Latest and Most  
Efficient in Hack-saws  
Faster - More Accu-  
rate and Economical

### **REDUCES**

Cutting Time  
Wasted Material  
Blade Expense

### **ELIMINATES**

Semi Finishing Jobs

Cap. 6"x16", 9"x9", 13"x13"

### **PEERLESS**

HIGH SPEED HACK-SAWS

6"x16" 9"x9" 13"x16"

Sturdy--Efficient--Reliable

**Peerless Machine Co.**

1609 Racine St.

Racine, Wisconsin

*Write for Details*

## T.H.L. Front Lever Bench Punch

Malleable iron body; working parts hardened. Steel shaft and plunger. Die cannot lose alignment with punch. All parts interchangeable. Built for hardest, toughest work.

### **PRICE \$45**

Extra Punches, 20 cents each;  
extra dies, 30 cents.

Capacity 13/32" thru 1/4" steel,  
11/32" thru 5/16". Punches up  
to 1/2". Weight, 70 lbs.

*A good buy; can ship promptly*

**T. H. LEWTHWAITE  
MACHINE CO.**

(Est. 1890)

417 E. 31st St., NEW YORK



# Angle Iron Combination No. 455

## SPEED

Notches  
and  
Bends  
a  
2-inch  
by  
2-inch  
by  
1/4-inch  
Angle  
Iron  
in  
One  
Minute  
Flat



## CAPACITY

Shears  
Notches  
and  
Bends  
2-inch  
by  
2-inch  
by  
1/4-inch  
Angles

A unit of this Angle Iron Working Machinery completes your up-to-date shop equipment. Absolutely dependable. No changing of die. Always ready to use.

*Write for Prices*

**WHITNEY METAL TOOL CO.**

95 Forbes St., Rockford, Ill.



Nos. 1, 2 & 5

## When All Is Said

and done, you cannot beat our line of tools for cutting sheet, bar or round rods in iron or mild steels.

*You can use our line of*

## Hercules' Shears and Rod Cutters

For cutting card, straw and fibre boards, brass and copper, gold and silver sheets, and hard rubber compositions.

*Catalog No. 2 on request.*

**W. C. & F. C. TUCKER**  
HARTFORD, CONN.



Plain Shears Nos. 3 & 4

## SOMETHING NEW



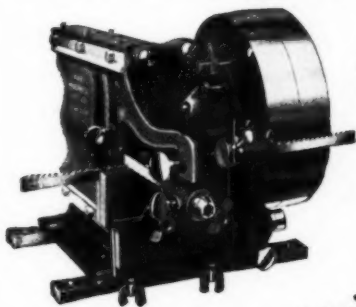
**Hand Power Presses, Shears, Notchers,  
Punches and Dies, Etc.**

**Write for Booklet**

**J.F. Kidder Mfg. Co., Burlington, Vt.**



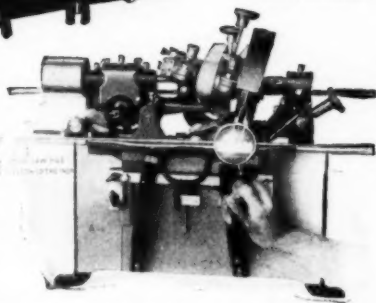
# Don't junk your hard edged saws



**Model K-2**  
**IN ONE**  
**OPERATION**  
Files and Sets  
Medium, Spring  
or  
Soft Tempered  
**BAND SAWS**

Used by over 100  
large Foundries  
and Body Builders

**Model A-2**  
Sharpens and  
Salvages  
**HARD**  
Medium  
or Soft  
Tempered  
**BAND**  
**SAWS**



**FIGURE**  
**YOUR**  
**SAVING WHEN THESE MACHINES WILL**  
**SHARPEN A SAW FOR 5 CENTS**

*Write for FREE booklet*

**We also make Circular Saw Filers & Grinders**

**THE WARDWELL MFG. CO.**

**108 Hamilton Ave.,**

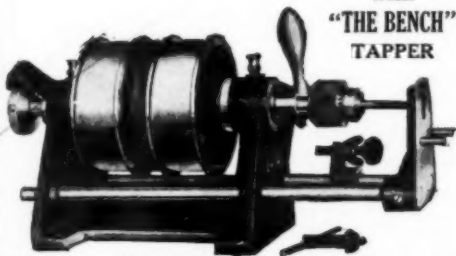
**CLEVELAND, OHIO**

# 2 Seconds per Tapped Hole

with

**"THE BENCH"**

**TAPPER**



$\frac{3}{8}$ " Capacity **\$55<sup>00</sup>** Complete f.o.b. Philadelphia

**THE BENCH MACHINE TOOL CO.**

Makers of "THE BENCH" Rod Cutters

222 N. 13th Street,

Philadelphia, Pa.

## No More Broken Taps

**When Woodstock Safety  
Tapping Chucks are Used**



It has revolutionized tapping in many shops. Users find it successful in very tough metals, blind tapping and bottom tapping in shallow holes, where a stop on the machine is worthless.

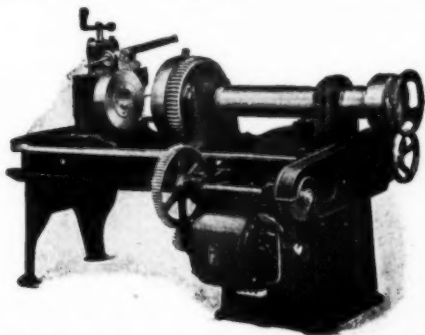
For more than nine years the Improved Woodstock has been solving difficult tapping problems, and no doubt could also solve yours. Made in five sizes.

*Glad to send you one on trial—today*

**Peter Bros. Mfg. Co.,** 115 Railroad St.,  
ALCONQUIN, ILL.

# Rock-Bottom Economy Threading Your Pipe

*With a Selected Bignall & Keeler Machine*



**No. 3 Peerless Improved. Motor Drive. Cap.  $\frac{1}{4}$ " to 3".**

*Our Comprehensive Line* of 17 styles and sizes offers you a variety from which the correct machine for your special needs can be selected. Every B & K Pipe Threading Machine has behind it a successful operating experience of nearly fifty years.

*Superior Equipment* is such a paying investment because the economy so obtained keeps on for years and years without any further attention from you. Nor do you have that boomerang of "cheap" machines—the inevitable high up-keep costs.

*B & Ks Embody* a large number of features which help to increase the daily output, and they assure you at all times of dependable accuracy.

*Let us tell you more about these time and money  
saving features and our moderate prices*

**Bignall & Keeler Machine Works**  
EDWARDSVILLE, ILL.

## Edgemont Friction Clutch

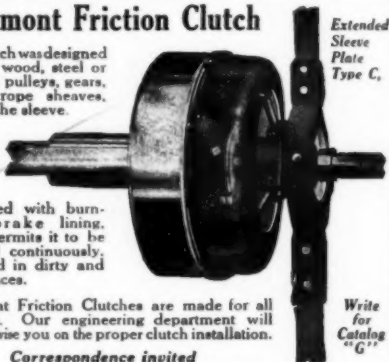
This clutch was designed to drive wood, steel or cast iron pulleys, gears, drums, rope sheaves, etc., on the sleeve.

It is lined with burn-proof brake lining, which permits it to be operated continuously, and used in dirty and dusty places.

Edgemont Friction Clutches are made for all purposes. Our engineering department will gladly advise you on the proper clutch installation.

*Correspondence invited*

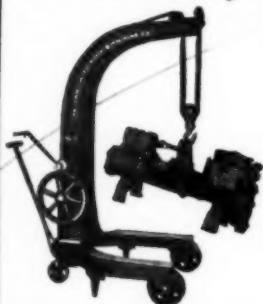
**Edgemont Machine Co., Inc., DAYTON, OHIO**



*Extended  
Sleeve  
Plate  
Type C,*

*Write  
for  
Catalog  
"G"*

## *I'm the Boy—*



**Who Out-Works  
8 to 10 Big Men**

It's no trouble at all  
for one man and a

**CantOn Portable Crane,  
Hoist and Truck**

to move machinery and  
heavy stuff which ordinarily  
would require the  
combined efforts of 8 to  
10 men. More safely, too.

*The several sizes are  
shown in Booklet E-8*

**CANTON FOUNDRY & MCHE. CO., Canton, Ohio**

New York Office: 203 East 15th Street, Second Floor

# FORD TRIBLOC



## “Safety First” Hoists

By resisting the surge and shock of hoisting service in the shop—the strength, safety and smooth action of Ford Triblocs are saving man power and labor hours, and speeding human effort.

Workmen appreciate the advantages of Ford Triblocs—management profits through their use.

**Capacities  $\frac{1}{4}$  to 20 tons**

*Write for Catalog 6-B*

**FORD CHAIN BLOCK COMPANY**  
2nd & Diamond Sts., Philadelphia, Pa.

2268-D

**Compact—Sensitive—Accurate—Durable**  
**The "ATLAS JUNIOR" INDICATOR**

Reads over a range of 0.055"—at a glance. Dial may be set at zero after adjusting to work. Contact point can be locked in position for inspecting. Keep it in your pocket and use it anywhere. Details?

**PRICE \$7.50**



*Sold by Dealers or Direct*

**WALLACE BROS.**

160 N. Wells St., Dept. B.B. CHICAGO, ILL.

**Model "25"**

In a  
Leather Case  
with  
Universal  
Attachments

**Only  
\$10.**



**FEDERAL  
Dial Indicator**

Adjusts instantly to any desired position on a surface or height gauge; also for checking lathe, miller, grinder, shaper or planer work.

Send for our complete catalog of Dial Indicators, Cylinder Gauges, Comparators, Thickness Gauges, Piston Gauges, Rubber Gauges, Piston Pin Gauges, Fabric Gauges, Paper Gauges, Wire Gauges, Piston Ring Gauges, Thread Lead Gauges.

**Federal Products Corporation**

*On a Surface Gauge* Elbow & Chestnut Sts., Providence, R. I.



## ROCKWELL HARDNESS TESTERS

The Rockwell is made in these several sizes because these sizes have been demanded by the thousand users of this accurate—speedy—practical hardness tester. The Rockwell has been adopted as their standard machine by the makers of typewriters who test thousands of small parts each day. By tool shops for testing cutters and dies. By the makers of the best iron castings, to keep daily check on their iron, and users of iron castings are now specifying Rockwell tests to foundries to avoid receiving hard castings. Large machine parts in rock drills and printing presses, scales and pumps are being Rockwelled by the hundred. Automobile companies are testing case hardened parts, alloy steel parts and many of them are now Rockwell Testing every cylinder block casting. Heat treated steel tubular shafting, monel metal, duralumin, brass, graphite-bronze and innumerable shapes and alloys are being Rockwelled.

The Rockwell has become the Greatest Hardness Tester because it does the most and does it better.

*You cannot be the first to use it,  
but do not be the last.*

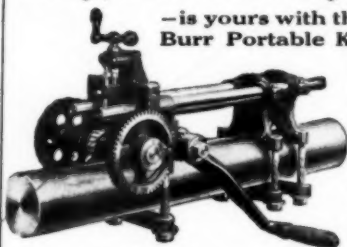
### WILSON-MAEULEN COMPANY INC

*Our Representatives have Demonstration Testers*

St. Mary's St. & Concord Ave., New York City

## Easy, Low Cost Keyseating

—is yours with the handy  
**Burr Portable Keyseater**



No need now to dismantle your shafts and machines. A "Burr" cuts accurate keyseats up to 12-in. long in shafting up to 5" diam. with no trouble or any resetting.

**Over Nine Thousand in use today!**  
Your choice of seven sizes. A single emergency job often pays for it. Write to

**JOHN T. BURR & SON**

422 Kent Ave., Brooklyn, N. Y.

## A Rattler

*used by*

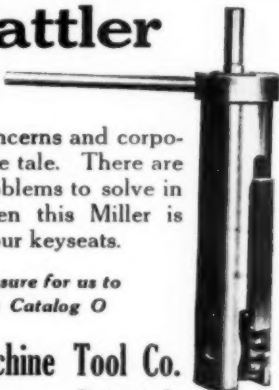
many large concerns and corporations, tells the tale. There are no difficult problems to solve in key fitting when this Miller is used to mill your keyseats.

*It is a pleasure for us to  
send you Catalog O*

**National Machine Tool Co.**

2268 Spring Grove Ave.,

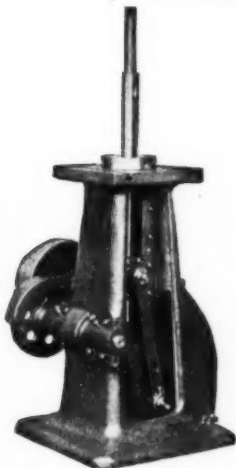
Cincinnati, O.





# Lower Your Keyseating Costs

With the NEW Catlin No. 1



*Rapid  
Simple  
Durable  
Efficient  
Accurate  
Economical*

Catlin Keyseaters are not popular in big machine shops, automobile plants, government shops, navy yards and many foreign factories just because they are good to look at, but *because they make good reducing keyseating costs.*

The crank motion is much easier on the cutter than the ordinary rack and pinion drive, as it enters the cut during the slow part of the stroke. The work is instantly

centered by the bore, and the keyseat is accurately cut with proper taper, whether hubs are finished or not. We build a complete line of Catlin Keyseaters.

Let us send you the large folder, which gives full details of construction and operation, and also some

**Very Interesting Production Records !**

## Chattanooga Machinery Company

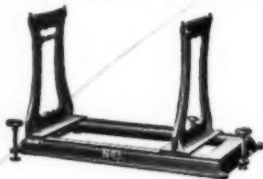
2401 Bennett Ave.,

CHATTANOOGA, TENN.

# For Sure Balance--

an absolutely level and solid "Way" is necessary

## Bowsher "Balancing Ways"



are brought to an absolute *level* in ten seconds. No revolving parts.

The edges or "knives" upon which the work is tested are ground *true*, and are mounted upon the planed "ways" of a heavy bed or frame.

Standards adjustable to suit length of arbor.

Three sizes for floor—one for bench use

Send for Catalog "F"

The N. P. Bowsher Co., South Bend, Ind.

Made in six sizes, for balancing anything that turns on a shaft, up to 24,000 lbs. weight



## Anderson Improved Balancing Ways

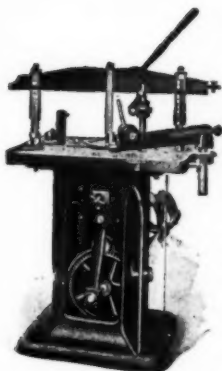
Spindles are hardened, glass hard, so they do not become indented or lose accuracy. Chilled iron discs; especially sensitive bearings.

"Swing"	20"	40"	60"	72"	96"	72"
Greatest distance bet. standards	20"	30"	30"	66"	88"	20"
Capacity in lbs.	1000	2000	2000	5000	10000	24000
Approx. shipping weight	45	90	150	350	650	
Code	Bend	B-d	Bis	Bib	Ben	

Any of above can be furnished with longer shafts

**Anderson Bros. Mfg. Co.**

1915 Kishwaukee St., Rockford, Ill.



## Keyseating at Less Expense on the "Davis"

HERE'S a high grade, moderately priced machine that will do your keyseating quickly, accurately and economically, giving thoro satisfaction at all times.

*Please read the table below*

**Sample of Cutting Time on Gears**

Size of Blank	Kind of Stock	Size of Keyway	No. at 1 Chucking	Cutting Time
3 1/4" x 3/4"	Steel	3/16" x 3/32"	3	1 min. 30 sec.
6 3/4" x 1 1/8"	C. Iron	1/4" x 1/8"	1	20 sec.
2 5/16" x 9/16"	Steel	1/4" x 1/8"	4	40 sec.
3" x 4 3/4"	Steel	5/16" x 5/32"	1	1 min. 40 sec.
3" x 7/16"	C. Iron	1/8" x 1/16"	4	30 sec.
Oil Groove	C. Iron	1/8" x 2 7/8"	1	30 sec.

THE "DAVIS" is made in two sizes to cut 1/16 to 1-inch keyways in pulleys, gear blanks, bell cranks, crank handles, etc., etc., and for slotting, oil grooving and work of a similar nature. It is simply designed, ruggedly built, easily handled and a big producer. Can equip for motor drive.

*Let us mail you the Folder, which contains a lot of interesting, practical information*

**Davis Keyseater Company**

255 1/2 Mill St.,

Rochester, N. Y., U. S. A.

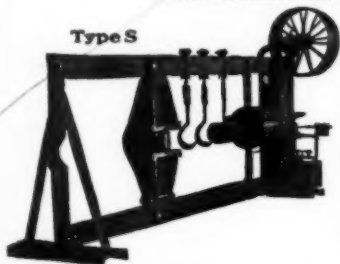
# Lourie Wheel Presses

are made  
with—

**CAST STEEL CROSSHEADS**

**I-BEAM BUTTRESSES**

**DIFFERENTIAL PUMPS**



**Type S**

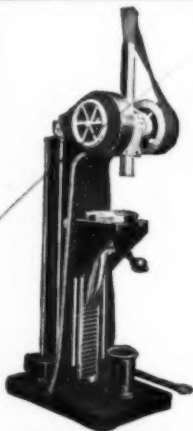
There are no  
better **WHEEL  
PRESSES**, few  
as good.

Made in any  
tons capacity.

Any distance  
between Strain  
Bars.

Any length of  
Ram Stroke.

**LOURIE MFG. CO., Springfield, Ill., U.S.A.**



## Atlas Arbor Presses

**For All Forcing Operations**

Illustration shows our  
No. 55 Power Drive  
Press, which is adapta-  
ble for fast production  
work and capable of  
supplying ten tons pres-  
sure.

*Write for our Bulletin—  
showing 30 different sizes*

**Atlas Press Co.**

*Department B,  
Kalamazoo, Michigan*



## The Old Way

Results in damaged shafts, bushings, pins and other parts, as well as accidents to the workmen.

## With Nicholson Arbor Presses

all of these losses and accidents are eliminated, and considerable money is saved. Made in five sizes that take work up to 20" in diameter and 31" high and exerting pressures up to 9,000 lbs. Can make immediate delivery on all sizes and will be glad to send any size on trial.

### Nicholson Expanding Mandrels

**Save space**—A set of nine does the work of several hundred solid mandrels.

**Save time**—Instantly fit any hole round or square, from  $\frac{1}{2}$ " to 7"

**Save labor**—No need to caliper a dozen or so solid mandrels, or turn one down to fit certain job.

*Write for literature and 30-day trial plan*

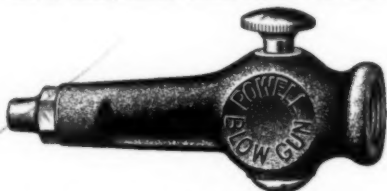
**W. H. Nicholson & Co.**  
117 Oregon St., Wilkes-Barre, Pa.



# POWELL BLOW GUN

Designed to dispense AIR with utmost economy

Used for cleaning machines, machine tools and work benches



Made with different tips for special requirements.

*Circular on request.*

**The Wm. Powell Co.**

2525 Spring Grove Ave.,

Cincinnati, O.

## Vanderbeek Universal Joints



—represent the practical refinements of 25 years experience in manufacturing Universal Joints. All parts are generous sized, fully protected against dirt, and are practically self-oiling. Exceptionally strong, they transmit full power up to 70°.

Vanderbeek Joints are in daily use on thousands of machines.

*Write today for our Descriptive Catalog.*

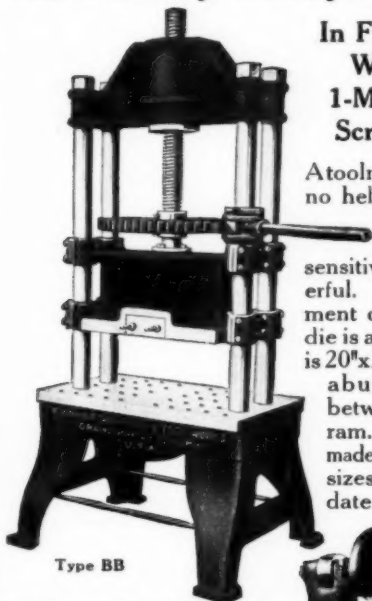
**American Tool Works, Inc.**

Hartford, Conn., U. S. A.



# Save Many Costly Hours—

## In Fitting Dies With Our 1-Man 4-Post Screw Press



Type BB

A toolmaker requires no help in handling any dies. Machine is sensitive, rigid, powerful. Perfect alignment of punch and die is assured. Table is 20"x36", and there's abundant room between bed and ram. Press is also made in three smaller sizes. All up-to-date cost reducers.

## Surface Grinder

Is accurate, runs silently without chatter. Both feeds have graduated dial. Has all latest adjustments and attachments.

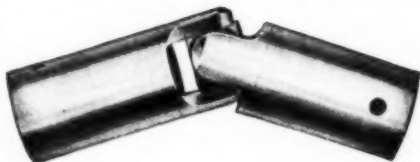
*Details and price on request*

**JARECKI MACHINE  
AND TOOL CO.**

Successor to Manhattan Machine & Tool Works  
Dept. A. GRAND RAPIDS, MICH.



# NATCo Universal Joints



## Of Proven Service

Made from Alloy Steel.

All working surfaces hardened and ground to insure maximum life.

Interchangeable manufacture permits repair parts replacement to overcome natural wear. Complete replacement is seldom necessary.

Manufactured in the following sizes—  
 $\frac{5}{8}$ " ,  $\frac{3}{4}$ " , 1" ,  $1\frac{1}{4}$ " ,  $1\frac{1}{2}$ " , 2" ,  $2\frac{1}{2}$ " , 3" .

*Descriptive Bulletin will be  
sent on request.*

**The National Automatic Tool Co.**  
**Richmond, Indiana**



# "WHITNEY"

## Silent Chain Drives



"WHITNEY SILENT CHAIN DRIVES" operate on very short centers and deliver practically every ounce of power to the driven shaft. They are positive, yet flexible.

*Let us fit the drive to the job*

**THE WHITNEY MFG. CO., - HARTFORD, CONN.**

**NEW YORK**  
L. C. Biglow & Co., Inc.  
250 W. 54th St.

**PITTSBURGH**  
Pittsburgh Gear & Mch. Co.  
27th & Smallman Sts.

**CLEVELAND**  
Smith Power Transmission Co.  
1218 Ontario St.

**BOSTON**  
George C. Steil  
727-A Boylston St.

**SYRACUSE, N. Y.**  
George McPherson  
201 Norwood Ave.

**CHICAGO**  
E. H. Huntington  
215 Machinery Hall

**PHILADELPHIA**  
R. J. Howison  
1505 Race St.

**DETROIT**  
A. G. Brice  
240 Gen. Motors Bldg.

**SAN FRANCISCO**  
A. H. Coates Co.  
615 Howard St.

**SEATTLE, A. H. Coates Co., 1115 East Union St.**

## The "Utility" Sleeve

A Detachable  
Taper Shank  
for  
Straight  
Shank  
Tools



Cuts  
Small  
Tool Costs

Insert a straight shank drill or reamer in this Sleeve, and it works as efficiently as a solid taper shank tool.

Only the straight shank tool of high speed steel is discarded when worn or broken—not the entire taper shank tool. Cuts tool costs, saves time, increases output.

Write for "Utility Tools" Catalog

**The J. C. Glenzer Company**  
6469 Epworth Blvd., DETROIT, MICH.



## Multiple Drilling In ANY PATTERN On a Single Spindle

You can do so much more work and cut down your drilling costs with an up-to-date

**U. S. Multiple Spindle  
Drill Head**

Made regularly with 2 to 6 adjustable spindles. Special Heads made to your order, with adjustable or fixed spindles.

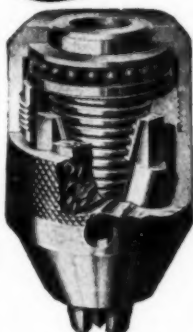
*Let us help you make  
a worth-while saving*

**The United States Drill Head Co.,** 1952 W. Sixth St., CINCINNATI, O.

Michigan Agents—National Sales Engineering Corp., Detroit, Mich.

# Etico

**Lower Prices  
and  
Trade-In Offer**



**KEYLESS  
HAND-OPERATED**

Any mechanic can see why the ETTCO chuck must hold a drill tight. The turning of the drill press applies the force that tightens your drill. Naturally the harder your work the tighter the chuck must grip. It release quickly and easily with a turn of the wrist

## **NEW PRICES**

No. 1	Etico—0 to 17/34"	\$ 5.50
No. 2	Etico—0 to 25 64"	6.50
No. 3	Etico—0 to 17/32"	9.00
No. 3½	Etico—1/8 to 5/8"	11.00
No. 1	Morse Taper Shank	.75
No. 2	Morse Taper Shank	.75
No. 3	Morse Taper Shank	1.00
No. 4	Morse Taper Shank	1.50
½" and 41/64"	Straight Shank	1.00

Chucks—Less 20%  
Morse Taper Shanks—Net

## **Equip Your Electric Drills with ETTCOS.**

### ***Our trade-in offer***

To quickly place the advantages of the ETTCO Drill Chuck before you we make the following unusual offer:

Send us now any and all worn-out drill chucks in your shop. We will send you an equal number of ETTCOS at 35% off the above new low prices. New equipment produces profits. A time limit is set on this offer. **Act at once.**

## **Eastern Tube & Tool Co., Inc.**

580 Johnson Ave., Brooklyn, N. Y.

## U. S. Sensitive Motor Driven 14" Floor Drill

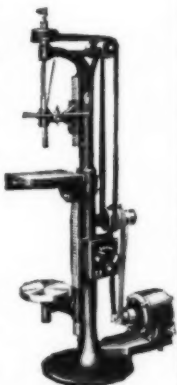
A simple, rugged, convenient drill, built by machine tool manufacturers, for the quick and accurate drilling of holes  $\frac{1}{2}$ " and smaller. High grade steel spindle, ground to size, with ball thrust bearing; vertical adjustment to head; tables for long and short work; three speeds.

**Price, Only \$115**

f. o. b. Cincinnati, complete with motor, switch and belts. Or furnished for countershaft drive, or motor drive without motor, switch and belts, ONLY \$70.

**The U. S. Machine Tool Co.**

1952 W. 6th St., Cincinnati, Ohio



## Sigourney Sensitive Drills

**All parts interchangeable**

Made with 1 to 4 spindles.  
Self-aligning ball bearings.

Extremely sensitive, accurate and durable, they are *quality* drills for those who buy tools for what they do.

The picture shows our No. 0 2-spindle ball bearing Bench Drill--a splendid tool.

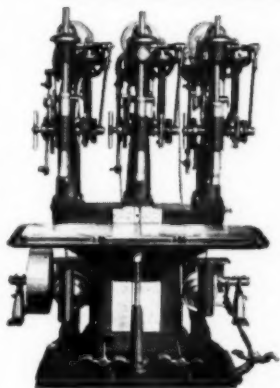


*Complete information gladly mailed upon request*

**THE SIGOURNEY TOOL CO.,**

**Hartford, Conn.**

# Used Much On Auto Parts and Agricultural Implements



If you are at all interested in lower drilling costs, you should investigate the Rockford Automatic Gang Drilling Machine

*Built with  
2, 3, 4 and 6  
Spindles*

*Box Column Type*

*Satisfied Superintendents* endorse this modern, ultra-convenient machine. It

produces dependable, accurate work in large volume. Enables operators to establish new low cost shop records.

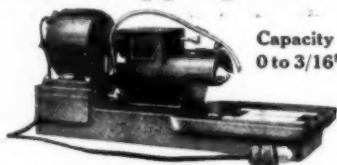
**Automatic Return**—When each spindle has completed its operation it automatically returns to its highest position, where it remains until the starting lever is tripped, when it immediately drops to position above the work.

**By Removal** of the stop pin in the cam, the spindle will immediately return to lowest position above work, and when tripped by automatic stop, will return to highest position and immediately drop again to work, repeating the movement automatically until the power is shut off. The spindle can be pulled ahead of the feed while in operation, a great advantage in drilling through a cored piece, piping or similar work.

*Ask for Circular. Glad to answer questions.*

**Rockford Drilling Machine Co.**  
ROCKFORD, ILLINOIS

## BICKNELL-THOMAS Friction Tapping Machine



Capacity  
0 to 3/16"

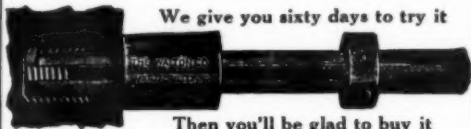
The most simple, durable, completely equipped, compact, easiest operated and most productive bench tapping machine built. The cone friction drive is automatically adjusted by the pressure the operator puts on spindle, making an extremely sensitive drive, saving time and taps and increasing output. Furnished for either direct or alternating current.

*You should have specifications; may we send them?*

**Bicknell-Thomas Company**  
90 Wells Street, Greenfield, Mass.

## You Don't Risk a Penny— By Sending for this Tap Extractor

We give you sixty days to try it



Then you'll be glad to buy it

**We Take the Risk** of sending it to you this way because we are sure a Walton will earn its cost in that time—it often earns a good deal more.

**A Walton Removes** a tap broken at or below the surface of the work. Does it quickly, easily and safely. Saves labor and speeds up the work. Sizes No. 8 to 1 1/4".

*They've cut shop costs for others — they can do so for you*

**THE WALTON CO., Hartford, Conn.**

# THE TAYLOR & FENN Sensitive High-Speed Radial

**Belt or  
Motor  
Drive**



## ***This Great Manufacturers' Drill—***

combines the speed of the sensitive with the flexibility of the radial, for practically all drilling requirements within its range. Drill the big pieces on the base and the small pieces on the table.

Tapping heads, power feed heads or hand lever feed heads may be used singly or in combination.

The drive is positive, through gears and silent chain. The spindle has three speeds and is bored for No. 2 Morse taper.

*A thorough investigation of this machine will repay you  
We shall be glad to furnish complete data upon request*

**The Taylor & Fenn Co.**  
**Hartford, Conn., U. S. A.**

# Thor

## Electric Drills —

**Push the Button  
and It's Ready**



**MEN** who use a THOR Portable Electric Drill, tell us that it is exceptionally easy to operate and control. The easy operating push button switch enables the operator to start or stop at will. The handle is comfortable and gives positive control over the drill. THOR Drills are built of easy running, rugged parts that insure durability and economy. Jacobs Chucks, ball and roller bearings, double-silk wound coils, and other high grade parts are standard equipment.

*Get a copy of our new, illustrated catalog. It pictures and describes the complete THOR line. Write for it today.*

**Independent Pneumatic Tool Co.**  
**600 W. Jackson Blvd., Chicago, Ill.**

Patented  
Jan. 30, 1917



## New "AUTEX" Extension Reel 1925 Model

**Don't Forget the Swivel Joint Feature**

**Permits of carrying the lamp  
in any direction.**

**Typical** Rapidly finding a place in large  
Industrial Plants, Machine  
Shops and Service Stations.

**Now equipped with Belden Rubber Cord  
Approved by the Underwriters**

*Write for descriptive circular*

**The Cincinnati Specialty Mfg. Co., Inc.**  
**1903 Powers St., Cincinnati, Ohio**



# Don't Forget—

**Wood, Fibre, Rubber,  
Paper, Mica, Bakerlite**

as well as the  
ordinary  
metals can be  
drilled to ad-  
vantage on the

**Leland-Gifford  
Super-  
High-Speed  
Ball Bearing  
Drilling  
Machine**



**Spindle  
Speeds  
Up to  
10,000  
R. P. M.**

Write us about this Drill to speed  
up your drilling operations.

*Ask for Bulletin No. 502*

**Leland-Gifford Co.**

**Worcester, Mass.,**

**U. S. A.**



## Grant Noiseless Rotary Rivet Spinner

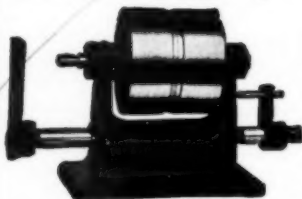


One rivet per second.  
 Heads highly polished.  
 No hammer or tool marks.  
 The work is always uniform.  
 As tight or loose as desired.  
 Works in hard-to-get-at places.  
 It's easily operated by cheap help.  
 A boy or girl can manipulate it.  
 And—it's noiseless in operation.

Write today for Catalog, showing several styles. Also send us samples of your work for riveting; we will return them with close estimate of cost.

**The Grant Mfg. & Machine Co.**  
 C. E. Station, Bridgeport, Conn.

## Burke Tapping Machines



FRICION DRIVEN

Built in three sizes,  
 3/16 inch at \$25, 3/8  
 inch at \$45, and 1/2  
 inch at \$60.

Complete in themselves, and highly efficient for all work within their capacity, yet they cost less than the average tapping attachment.

They increase production 20 or 30 or more to one over hand tapping, and do it easy without breaking taps. Let us send you a machine on 10 days' trial, to prove that it will do all we claim for it. Write today, lest you forget.

**The Burke Machine Tool Co.**  
 297 East 16th Street, Conneaut, Ohio

**FOOTBURT**



## **A Single Spindle Footburt Sipp Sensitive Drill**

**Made in three  
sizes of single  
and multiple  
spindle models**

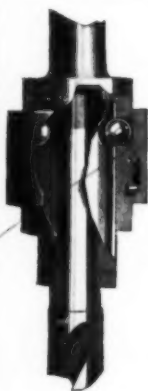
### **More holes with this machine**

**Why?** Because you can change speeds in two seconds or belts in ten seconds—because the automatic idlers keep the belt pulling to capacity at all times—because the full ball bearing equipment and accurate machining gives a smooth, fast cut.

*Write for No. 650 Folders*

**The Foote-Burt Company, Cleveland, O.**

**FOOTBURT**



## The Drill Chuck

### You've Been Looking For

THE "TITAN" has the best features of other high-grade chucks, plus—

### A Real Quick Change

No separate key to get lost. No hammer or special device required. Simply strike end of drill and out it comes. A one-armed man can do it.

Sizes Nos. 0 to 5, for any taper shank drill, counterbore, reamer, etc. The broken tang collet gives a positive drive to drills with broken tangs. Saves drills.

*Write for descriptive price list*

**Titan Tool Company**  
Erie, Penna.

## "Bridgebilt" Factory Seating and Tool Racks

A diversified line to meet requirements of every branch of industry.

The Bridgebilt line  
will give long and  
satisfactory service


*For illustrated price list  
and discounts write—*

**The Chicago Wire  
Chair Co.**

619 No. LaSalle St., Chicago, Ill.

No. 1010-SWS





The  
Standard of America

Used wherever precision  
drills are required for manu-  
facturing success.

Belt-driven — ball-bearing

One to Six Spindles.

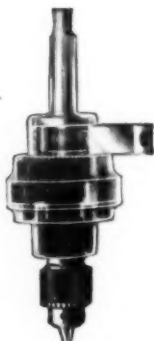
**Avey**

Ball-Bearing Drilling Machines

Built by

The Avey Drilling Machine Co.  
Cincinnati, Ohio

Jac  
Charles  
Chuck



Jarvis High Speed  
Sensitive Tapping  
Device, with the  
JACOBS CHUCK

## Broken Taps And The "JARVIS"

A large percentage of the  
of reversal. This means  
and the expense of a new

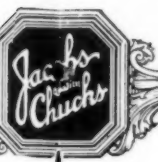
THE JARVIS High Speed  
ample power, cutting  
bottom, and still is so  
strikes the bottom of the

*Better write for the*

**THE CHARLES L. JARVIS COMPANY,**

*This advertisement is  
interests of good Drill  
by the makers of the*

*Time is money*



## os Are Production Barriers

**JARVIS" Removes those Barriers**

stage of tap breakage occurs at the point  
his means a loss of time for extricating,  
e of a new tap.

High Speed Sensitive Tapping Device has  
cutting a perfectly clean thread to the  
till is so sensitive as to stop when tap  
om of the hole, without breaking the tap.

*e for the Jarvis Catalog—it explains*

ANY, -:- -:- GILDERSLEEVE, CONN.

*ent is published in the  
Drilling Equipment  
the Jacobs Chuck*

*is money—why not save both?*





*The*  
**"RAREFIED"**  
**Dust Collector**

**Does the Most  
Thorough Work**

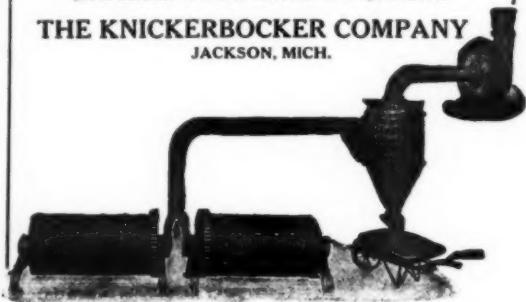
**Knickerbocker Says:** The "Rarefied" Dust Collector goes after the dust and gathers up practically every bit of it! Keeps your shop as spick-and-span as a New England kitchen.

**It Is Successful** with all kinds of dust—from emery wheels, sand blasts, tumbling mills, etc. No matter how heavy, gritty or cutting the dust, it does better work at *less cost* than other collectors.

**There's No Abrasion** of fan parts, and practically no wear from internal friction, as the dust is collected and automatically discharged before the air reaches the fan.

*Some plants are now using more than 25 of these efficient Collectors. Glad to mail complete details, or make an estimate on your work.*

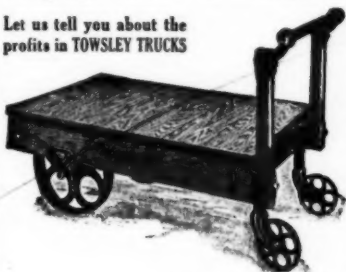
**THE KNICKERBOCKER COMPANY**  
JACKSON, MICH.





## Repay Cost 5 Times a Year

Let us tell you about the profits in TOWSLEY TRUCKS



Efficiency experts say that

### TOWSLEY TRUCKS

repay their cost every two to three months.

Every style for every need.

*Write us for details of big truck profits*

**John T. Towsley Mfg. Co., Cincinnati, Ohio**

## Send Us Your Inquiries

We are always glad to forward a memo of any machinery or equipment for which you are in the market to all of our advertisers without charge.

### The Blank Form

printed on the other side of this page is for this purpose, and you are free to make use of it without obligation.

It has been the means of bringing many buyers and sellers together, to their mutual profit and satisfaction.

## Memorandum Of Machinery or Equipment Wanted

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Name .....

Address .....

We are in market for .....

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**FREE SERVICE:**—If you do not find what you want advertised in HITCHCOCK'S MACHINE TOOL BLUE BOOK, or if you wish to send an inquiry to all of its advertisers, note your needs on this slip and send it to the publisher, A. H. Hitchcock, 1220-1235 Caxton Building, Chicago.

A copy of your memo will be forwarded to all advertisers in the BLUE BOOK. The replies will come directly from the parties who have the articles wanted—*not from the publisher*, who is not in the machinery business.

# *The* **Machine Tool Salesman's Job**

His only job is to show  
you how to save money  
on your production.

But he can't save you  
money unless you give  
him a hearing. Call on  
him to help you lick your  
problems of cost produc-  
tion.

*You can lick them only with  
modern*

**Machine Tools—The Master Tools of Industry**

**NATIONAL  
MACHINE TOOL BUILDERS'  
ASSOCIATION**

*This Space Contributed by*  
**The John Steptoe Co., Cincinnati, O.**

**With a MAGAZINE-FED  
Machine at Lowest Cost**



## FRICTION DRIVE

### BELT SHIFTER

### LOOSE PULLEY

**TIGHT  
PULLEY**

## ANOTHER SCREW READY

**CHUCK**

### SCREW DRIVING BIT

**SCREW READY  
TO DRIVE**

### Showing the Magazine Feed of the Reynolds Automatic

It's simply a question of saving time—and cost.

With the Reynolds Automatic the operator doesn't even touch the screws. He pours a gross or more into the hopper, and presses a foot lever to drive them—that's all. His hands are free to handle stock. Result, 8,000 to 10,000 machine or wood screws of practically any description are easily driven per day.

**Let us post you. Send us first, please, dimensions over all of your work, with length and gauge of screws used.**

## The Reynolds Machine Company

Dept. H. H.,

### Massillon, Ohio

## Second-Hand Machinery

Lists of Second-Hand Machinery, either For Sale, Wanted or For Exchange, set in uniform style, will be published under this heading at the rate of **50 cents a line**, across the page, each issue, plus **\$2.50** for name and address. Minimum charge, **\$5.00**. No display permitted in this department.

**Write directly to those offering the machines for sale** for prices and full descriptions. If what you seek is not listed, use the blank enclosed to make known your wants to the publisher, who will pass them along to all Machine Tool Blue Book advertisers.

**Circulation of Machine Tool Blue Book, 25,000.**

### FOR SALE BY

**J. C. Baker,** - **2590 Glenmawr Ave., Columbus, Ohio**

#### CRANK PLANER.

Whitcomb iron crank planer, 17"x17" between housings, 12" stroke, cross feed, good order.....\$ 65.

### FOR SALE BY

**J. L. Lucas & Son, Inc.,** - **3 Fox St., Bridgeport, Conn.**

#### AUTOMATIC SCREW MACHINES.

10 Practically new  $\frac{1}{2}$ "- $\frac{1}{4}$ " model B Cleveland Automatic screw machines, serial numbers 29,000. Write for photograph and full description.

### FOR SALE BY

**The Seifreat-Elstad Machinery Co.,**

**Cincinnati** **Dayton, Ohio** **Columbus**

Engraving machine, No. 3 Keller.....\$ 1,750.  
Grinder, universal, 12"x66" Landis No. 4.....1,500.  
Radial, 6' Fostick, gear box drive.....650.  
Screw mches., auto., 1 each Cleveland model A,  $\frac{1}{2}$ "- $\frac{3}{4}$ "; model B,  $\frac{1}{4}$ ".  
Turret, Potter & Johnston No. 6.

### FOR SALE BY

**M. A. Wertman,** - **505 Superior Bldg., Cleveland, Ohio**

Amplifying gauge, American, 98%.	Lathe, 20"x10" American, q. c., 90%.
Automatic, No. 24 New Britain, 85%.	Lathe, Wade-Amer, precision, 98%.
Bench centers, B. & S., 8"x36" 95%.	Press, No. 56 Toledo, geared.
Grinder, No. 65 Heald cyl., 90%.	Press, No. 69 Ferracute, geared.
Grinder, Ingersoll cutter, 100%.	Shaper, No. 14 Cochrane-B. univ.
Grinder, No. 13 B. & S. univ., m. d., 90%.	Shaper, 16" Cincinnati, 95%.
Grinder, No. 1 W. & M. surf., 90%.	Swaging mch., No. 3 Etna.
Grinder, No. 11 B. & S. pl., s. p. d., 90%.	Turret lathe, No. 6 W. & S.
Lathe, 16"x8' Bradford, l. c. g., 85%.	Turret lathe, No. 2 W. & S.

### FOR SALE BY

**The Reeve-Fritts Company,** **558 Washington Blvd., Chicago, Ill.**

Die filer, Haskins, motor drive.	Lathe, Nos. 3 & 4 Cataract, bench.
Drill press, 4-spindle Leland, b. b.	Miller, No. 4 Cataract, bench.
Grinder, 12" Besly, disc, complete.	Pipe machine, 2" Jarecki, power.
Grinder, Hisey tool post, d. c.	Press, No. 1 Walsh, o. b. i.
Grinder, No. 1 LeBlond tool & cutter	Press, No. 2 Cady, solid back.
Lathe, 14"x6" C. & J., q. c. g.	Screw mches., Nos. 0, 2 & 3 Foster.
Lathe, 16"x6" Monarch, quick change	Shaper, 12" Smith & Mills crank.
gear, 2 chucks.	Shaper, 14" Steptoe crank.
Lathe, gap, 22/36"x8' Harrington.	Welder, $\frac{1}{8}$ " Taylor, motor drive.

## SECOND-HAND MACHINERY

### FOR SALE BY

**Cyril J. Bath & Co., 6900 Machinery Ave., N. E., Cleveland, O.**

#### BORING MILLS.

- |                                 |   |
|---------------------------------|---|
| 42" Baush, 2 swivel heads, 75%. | 60" Niles, 2 swivel heads and one internal boring head. |
| 7' Betts, double head, 85%.     |   |
| 60" Colburn, rapid traverse.    |   |

#### DRAW BENCHES.

- 15,000 lbs. to 25,000 lbs. Waterbury-Farrel, United Engineering and Standard; 20" draw, with 18' extensions for mandrels, heavy cast iron; 85%.

#### DRILLS—MULTI-SPINDLE.

- 4-spindle 20" Barnes, 85%.
- 4-spindle Foote-Burt sensitive, 85%, (2).

#### DRILLS—RADIAL.

- |  |                             |
|--|-----------------------------|
| No. 3, 10' Cleveland Punch & Shear wall radials. | No. 1, 8' wall radial.      |
| 8' Bickford plain.                               | 1—4' Cincinnati plain, 70%. |

#### DRILLS—UPRIGHT.

- |   |   |
|---|---|
| 20" Mechanics-Rockford, 60%.              | 24" Cincinnati, slid. hd., fric. bk. grs. |
| 24" Rockford, as above, 65%.              | 28" Cincinnati, sliding head, 80%.        |
| 24" Kokomo hi-speed, slid. hd., 85%.      | 32" Cincinnati, with tap. att., 75%.      |
| 24" Aurora, slid. hd., gr. fd., 85%, (2). | 24" No. 25 Foote-Burt, 90%.               |

#### FORGING MACHINES AND BULLDOZERS.

- |  |                                     |
|--|-------------------------------------|
| No. 3, Williams & White double end bulldozer, 80%. | 4" Acme, steel bed, 90%.            |
| 1" Ajax, 75%, (3).                                 | 250-ton Mesta steam hydraulic, 85%. |
| No. 4 Williams & White.                            | 14" all steel Acme, 85%.            |

#### GRINDERS.

- |  |  |
|--|--|
| No. 3 Brown & Sharpe univ., 70%.                         | Washburn drill grinder, 70%.                 |
| 10x36" Modern univ., and parts, 70%.                     | Yankee drill grinder.                        |
| 84" Diamond surface, 85%.                                | Whitney wet tool grinder, 20"x2" wheel; 75%. |
| No. 75 Hald internal, with extra spindles and c/s., 85%. | 18x36" Norton plain, 75%.                    |
| No. 4 Gardner, motor, disc, 85%.                         |  |

#### HAMMERS.

- |  |  |
|--|--|
| No. 8 Beaudry, power, arranged for motor drive, 80%. | 850-lb. Bell, steam forging, 85%.                                  |
| 100-lb. Bradley, helve, 75%—90% (3).                 | 1500-lb. Waterbury-Farrell, board drop, 80%, (2).                  |
| 500-lb. Bradley, upright helve, 80%.                 | 2000-lb. Waterbury-Farrell, board drop, 80%, (2).                  |
| 600-lb. Merrill, board drop, 75%.                    | 800-lb. to 4000 lb. Chambersburg and Massillon steam drop hammers. |
| 800-lb. Billings & S., board drop, 75%.              |  |
| 800-lb. Waterbury-F., board dr., 75%.                |  |
| 800-lb. Lane, steam forging, 80%.                    |  |

#### LATHES.

- |   |   |
|---|---|
| 14"x6" Hendey tool room, t. a., 75%.                          | 20"x8" Lodge & Shipley, d.b.g., 75%.      |
| 16"x8" Hamilton, belt feed, 50%.                              | 24"x12" Reed, beit fd., l. ch. grs., 60%. |
| 18"x9" Chard, with chucks, 90%.                               | 25"x14" LeBlond heavy duty, (3).          |
| 18"x8" Lodge & Shipley, 70%, (4).                             | 32"x18" Schumacher, cone head, 80%.       |
| 18"x8" American, 3-step cone, late model, compound rest, 85%. | 36"x18" Schumacher, tri bk.grd., 75%.     |
| 19"x8" LeBlond, friction hd., 60%.                            | 48"x26" Bridgeford, grd. hd., t. a., 85%. |

#### MILLING MACHINES.

- |  |                                     |
|--|-------------------------------------|
| Style "B" Goo'ley & Edlund, 80%, (2).  | No. 3 Brown & Sharpe, plain, 65%.   |
| 20"x7"x18" Oesterlein plain, 50%.      | No. 3B Brown & S., pl., heavy, 60%. |
| No. 0 Steptoe plain, univ. heads, 90%. | No. 5 Becker, 50%, (4).             |
| No. 0 Rockford, new.                   | No. 13 B. & S., Lincoln type, 50%.  |
| No. 1 Rockford pl. bk. geared, 90%.    | Becker miller, model "C," table     |
| No. 2 Brown & Sharpe vertical, 50%.    | 14"x54", motor drive, 85%.          |

#### PLANERS.

- |                                    |  |
|------------------------------------|--|
| 22"x24"x57" Fitchburg, 75%.        | 30"x10" Lodge & Davis, sgl. hd., 50%.                    |
| 24"x24"x8" Liberty, 1 head, new.   | 48"x48"x16" Gray, 4 hds., mtr.dr., 50%.                  |
| 24"x8" Pond, single head, 50%.     | 60"x48"x16" Pond, 2 hds., old style, light pattern, 50%. |
| 30"x30"x8" Gray, single head, 80%. |  |

#### PIPE MACHINES.

- 4" Jarecki, with dies and countershaft, late model, 85%.
- 8" Jarecki, with dies and countershaft, late model, 85%.

## SECOND-HAND MACHINERY

### Cyril J. Bath & Co.—Continued

#### PRESSES.

Waterbury-Farrel trimmers, 56" flywheel, 4" stroke, 60%, (3).

No. 57 Toledo trimmer, with side shear, 80%.

Small Pratt & Whitney trimmer, stroke 3", 70%.

Waterbury-Farrel trimmers, 60" flywheel, 80%, (2).

No. 55 Cleveland, 85%.

Old No. 56 Toledo, 75%.

58½ Toledo, straight side, single crank, tie rod frame, 80%.

No. 56 Consolidated, 4" stroke, 80%.

#### PUNCHES AND SHEARS.

No. 2 Hilles & Jones horizontal punch, 70%.

54" gap American ship punch, capacity 1" thru 1", 70%.

5" Pels bar shear, all steel frame, 85%.

No. 7 Cleveland alligator shear, all-steel frame, 6" square capacity.

#### SAWS.

No. 3 Ajax hot saw and burring machine, complete, 80%.

6" Racine hack saw, 75%.

9" Racine hack saw, 75%.

#### SHAPERS.

20" American, crank, belt, 80%.

21" Averbek, 75%.

24" Walcott, crank, back geared, 90%.

24" Gould & Eberhardt crank, back

geared, 85%, (2).

32" Gould & E. invincible type.

#### SLOTTERS.

10" Newton, with countershaft, 75%.

12" Sellers, 75%.

16"-18" Dill; adjusting ram, arranged

for motor drive, 80%.

#### TUMBLING BARRELS.

Several sets 18"x48" chill lined square, with roller bearings and exhaust.

#### TURRET LATHES AND SCREW MACHINES.

21" Gisholt, standard model, 70%.

7-A Potter & Johnston automatic.

No. 4 Bardons & Oliver, 50%.

#### WOODWORKING TOOLS.

12" Fay & Egan pattern lathe, 90%.

Fay & Egan pony planer, 90%.

15" Silver post drill, 90%.

Fay & Egan rip saw, 90%.

#### MISCELLANEOUS.

Air compressor, 14"x12" Ingersoll-Rand, with tank, class E. R. I., serial No. 33413, 85%.

Blower, American, 9' fan, motor driven, 85%.

Blowers, Sturtevant, motor driven, 85%, (2).

Bolt cutter, 2" Acme, double head.

Boring machine, for cylinders, portable, 4" bar, 7" feed, arranged for motor or engine drive, 75%.

Gear cutter, 36" Gould & Eberhardt, 60%.

Gear hobbers, No. 12 Barber-Colman, 90%.

Gear hobber, 5-A Lees-Bradner.

Magnetic chucks, 90%, (2).

Riveter, Hanna I-beam frame, 12" gap, 90%.

### FOR SALE BY

**McDonald Machinery Co., 1531-33 N. Broadway, St. Louis, Mo.**

Bow rounder, No. 2 B. & S. auto.

Drill, Detroit 5-sp. horiz.

Drill, Rockford horiz. boring & drill.

Drill, Mueller 3½' s. p. radial.

Furnace, Holcroft 92 k. w. annealing.

Lathes, Hamilton 27x14, Sidney 29x10,

Bridgeford 27x9, Advance 18x8, q. c.

Lathe, Star 14x6, mtr. drive, collets.

Milling machines, Hendey No. 2G

univ.; LeBlond No. 4 heavy plain;

Ohio No. 20 pl.; 2-Knight vert mill

& drill; Becker "SD" vert, rotary

table. 17200 lbs.

Pipe machine, Oster 4", and dies.

Planers, Sellers 36"x36"x23, 2 heads;

Pond 42"x42"x16", 2 heads.

Punch presses, Consolidated No. 67

geared, wt. 30,000; Ferracute No. 2,

straight back; Swaine No. 40 arch;

Neavel bench.

Punches, Felber 1" in 1", and Slitt

shear; Scully, 20" throat, 1" in 1",

Saw, Nutter Barnes 8" cold.

Shaper, 26" open side planing; 15"

Smith & Mills; 15" Kelly; 16" Mil-

waukee, b. g.; 7" Rhodes; 21" b. g.

Smith & Mills.

Shears, 60" thrt, rotary slitting, (2).

Thread miller, Lees-Bradner No. 4.

Torches, 50 vapor blast heat, new.

Welders, 20 k. w. spot, Toledo, (2).

Welders, butt, Federal, ¾" rds.

## SECOND-HAND MACHINERY

### FOR SALE BY

**Niles-Bement-Pond Company, 111 Broadway, New York**  
 Located at our various factories

NOTE—All Motor-Driven Machines are for 220 volts, direct current.

#### PLANERS.

- |  |   |
|--|---|
| 24"x24"x 6' Whitcomb.  | 60"x60"x20' Niles, 3 hds., parallel dr.               |
| 24"x24"x10' Whitcomb.  | 60"x60"x20' Pond, 4 hds., rev. mtr. dr.               |
| 26"x26"x 6' Gray.  | 72"x60"x14' Bement, 4 heads, reversing motor drive.   |
| 30"x30"x 6' Pond, 2 hds., rev. mtr. dr.                        | 72"x72"x32' Ridgway, 4 heads.                         |
| 30"x30"x12' Pond, 2 hds., rev. mtr. dr.                        | 96"x84"x42' Bement, 5 heads, reversing motor drive.   |
| 36"x36"x12' Bement, 4 hds., paral. dr.                         | 120"x120"x36' Betts, 4 heads, motor drive thru belts. |
| 36"x36"x14' heavy Pond planer, 4 heads, reversing motor drive. | 120"x120"x30' Bement, 4 heads, reversing motor drive. |
| 36"x36"x24' Bement, 4 hds., paral. dr.                         | 143"x96"x35' Bement, 5 heads, reversing motor drive.  |
| 39"x38"x12' Niles, 4 hds., parallel dr.                        |   |
| 42"x42"x18' Pond, 4 hds., parallel dr.                         |   |
| 42"x42"x26' heavy Pond planer, 4 heads, reversing motor drive. |   |

#### DRILLING MACHINES.

- |  |   |
|--|---|
| 32" Aurora.                                      | 5' Ridgway radial, motor driven.              |
| 40" Bement "Goose-neck" drill.                   | 6' Pond radial, motor driven.                 |
| No. 13 Pratt & Whitney adjustable multi spindle. | 6' Niles semi-universal radial, motor driven. |
| No. 2 Bement cotter & keyseat drill.             | 6' Niles univ. radial, motor driven.          |
| 34" Morris radial.                               | 6' Pond radial, motor driven.                 |

#### LATHES

- |                                      |                                       |
|--------------------------------------|---------------------------------------|
| 16"x 6' Morris.                      | 30"x23' Pond, qk. ch., dbl. bk. grd.  |
| 16"x 8' Morris.                      | 32"x17' Pond, triple geared.          |
| 17"x 8' LeBlond, motor drive.        | 32"x67' Bement, triple grd., mtr. dr. |
| 18"x 8' Morris.                      | 36"x12' Pond, triple grd., motor dr.  |
| 18"x10' Morris.                      | 36"x17' Pond, triple grd., motor dr.  |
| 22"x10' Morris.                      | 36"x76' Bement shafting lathe.        |
| 22"x12' Morris.                      | 42" Pond forge lathe, motor driven.   |
| 24"x14' Pond, quick change.          | 60"x44' Pond, motor drive.            |
| 26"x10' Pond, motor drive.           | 72"x21' Pond, motor drive.            |
| 26"x16' Pond, quick change.          | 24"x26' Pratt & W. turret lathe.      |
| 26"x36' Pond, qk. ch., dbl. bk. grd. | 3"x36' Pratt & W. turret lathe.       |
| 30"x14' Pond, quick change.          | 28" Pond rigid turret lathe.          |

#### SHAPERS AND SLOTTERS.

- |                                       |                                   |
|---------------------------------------|-----------------------------------|
| 16" Stockbridge shaper.               | 10" Bement slotter.               |
| 17" Bement dbl. trav. hd. shaper.     | 15" Bement slotter, motor driven. |
| 20" Bement sgl. traveling hd. shaper. | 18" Bement slotter, motor driven. |
| 28" Worcester crank shaper.           | 21" Bement slotter.               |

#### MILLING MACHINES.

- |   |                                   |
|---|-----------------------------------|
| No. 3 Brown & Sharpe plain, motor driven.     | No. 3 Cincinnati vertical miller. |
| No. 3 LeBlond plain, single pulley.           | No. 5 Brown & Sharpe vertical.    |
| No. 5 Brown & Sharpe plain.                   | No. 10 Bement vertical.           |
| 48"x48"x14' Bement slab miller, motor driven. | 6"x48" Pratt & W. thread miller.  |
|   | 6"x80" Pratt & W. thread miller.  |
|   | 6"x132" Pratt & W. thread miller. |

#### GEAR CUTTERS.

- |                            |                            |
|----------------------------|----------------------------|
| No. 3 Brown & Sharpe spur. | No. 4 Newark spur.         |
| No. 4 Brown & Sharpe spur. | No. 6 Brown & Sharpe spur. |

#### VERTICAL BORING MACHINES.

- |  |  |
|--|--|
| 36"-44" Niles side hd. mill, motor dr. | 100" Niles boring & turn'g mill, m. d. |
| 31" Niles boring & turn'g mill, m. d.  | 10' Niles boring & turn'g mill, m. d.  |

#### HORIZONTAL BORING MACHINES.

- |   |  |
|---|--|
| 40" Morris, horizontal boring and drilling machine, 2" bar.               |  |
| 46" Bement horizontal boring and drilling machine, 2½" bar.               |  |
| 60" Bement horizontal boring and drilling machine, 2½" bar.               |  |
| 66" Bement horizontal boring and drilling machine, 4½" bar.               |  |
| 70" Bement horizontal boring and drilling machine, 5½" bar, motor driven. |  |
| 60" Bement duplex control boring machine, 3½" bar, motor driven.          |  |
| Pond floor drill, 3" bar.   |  |
| Bement boring, drilling and milling machine, 3½" bar, motor driven.       |  |



## SECOND-HAND MACHINERY

### Niles-Bement-Pond Company—Continued

#### HORIZONTAL BORING MACHINES—Continued.

Niles boring, drilling and milling machine, 44" bar, motor driven.  
Niles boring, drilling and milling machine, 5" bar, motor driven.  
Bement boring, drilling and milling machine, 6" bar, motor driven.

#### MISCELLANEOUS.

Grinder, No. 71 Heald internal, motor drive.  
Pipe machine, 2" Cox, motor driven.  
Punch, No. 3 Long & Allstatter horizontal, 3" in 1".  
Punch, No. 2 Long & Allstatter, 48" throat, 1" in 1".  
No. D Long & Allstatter double machine, 36" throat, 3" in 14".

#### CRANES AND HOISTS.

Electric Traveling Cranes. 220 Volts, Direct Current.

50-ton crane, 60' span.	3-ton crane, 19' span.
25-ton crane, 48' span.	4-ton Yale & Towne electric hoist on
5-ton crane, 20' span.	28' span crane bridge.
3-ton crane, 22' 6" span.	5-ton electric jib crane, 28' boom.
3-ton crane, 20' 24" span.	

## FOR SALE BY

### Reliance Machinery Sales Company

Brighton Road at Pennsylvania Ave., Pittsburgh, Pa.

Bolt cutter, Acme 2" class "A", 4" to 2".	Miller, model "B" Becker, vert., s. p. d.
Boring mill, 24" Bullard, rapid prod.	Miller, model "C" Becker vertical.
Boring mills, 30" Bullard, 1 head.	Miller, No. 32 Kempsmith mfg.
Boring mill, 34" Colburn, 1 head.	Nut tapper, 2" National, 6-spindle.
Boring mill, 42" Bullard, 2 hds., (2).	Pipe machine, 3" to 2" Armstrong.
Boring mill, 72" Betts vert., 2 hds.	Pipe machine, Jarecki, cap. 1" to 4".
Boring mill, 72" Niles vert., 2 hds.	Pipe machine, Merrill, 1 1/2" to 6".
Brake, 60" Dreis & Krump, cap. 14	Pipe machine, Merrill, 2 1/2" to 12".
ga., m. d.	Planer, 24"x24"x 6' Gray, 1 hd.
Bulldozer, No. 1 Williams & White.	Planer, 30"x30"x10' Woodward & P.
Bulldozer, No. 5 Williams & White.	Planer, 36"x36"x 8' Cincinnati, 1 hd.
Bulldozer, No. 6 Williams & White.	Planer, 36"x36"x10' Gray, 1 head.
Die slotter, 3 1/2" stroke, Garvin.	Press, No. 4 Toledo, o. b. i., 2 1/2" str.
Drill, 24" Hoefler, sliding head.	Press, No. 5 Toledo, o. b. i., 3" str.
Drill, 25" Weigel, sliding head.	Press, No. 10 Bliss, reducing, 4" str.
Drill, 36" Snyder, sliding head.	Press, No. 23 Stoll, horning.
Drill, 2' 6" Carlton high speed radial.	Press, No. 52 Bliss, s. s., 2" stroke.
Drill, 3' Mueller radial, g. b., s. p. d.	Presses, Nos. 61 & 62 Bliss o. b. i. f. w.
Drills, Amer. 4 & 5 radial, g. b., s. p. d.	Press, No. 74 Consolidated, geared.
Gear cutter, 36"x10" G. & E., s. p. d.	Press, No. 87 Niagara, screw.
Gear cutter, 60"x12" G. & E., s. p. d.	Press, Ferracute DD2, o. b. i., cam.
Grinder, 6"x32" Norton plain cyl.	Press, No. 65 Consolidated, 5" str.
Lathe, 12"x 5' Hendey, tie bar.	Press, No. 168 Toledo toggle.
Lathe, 14"x 6' Hendey, tie bar.	Press, No. 305 Bliss straight sided.
Lathe, 14"x8' Whitcomb-Blaisdell.	Punch, Cleve., 24" thrt. 4"x4", m. d.
Lathe, 16"x8' Hendey, tie bar.	Reduction gear, Foote, 50 to 1.
Lathe, 17"x8' Sidney, hvy. duty, q. c. g.	Saw, No. 8 Marvel metal band.
Lathe, 18"x10' Lodge & S., q. c. g., s. p.	Saws, American metal sw., m. d., (2).
Lathe, 18x10' Reed, q. c. g., d. b. g.	Screw mche., No. 2 W. & S., pl. head.
Lathe, 20"x10' Lodge & S., q. c. g.	Screw machine, No. 6 Foster, g. f.
Lathe, 24"x12' Rahn & L., q. c. g.	head, power feed.
Lathe, 30"x12' Johnson, triple grd.	Shaper, 20" Cincinnati b. g. crank.
Lathe, 34"x12' LeBlond, trip. grd.	Shaper, 20" Hendey b. g. crank.
Lathe, 36"x16' American, grd. hd.	Shaper, 21" American, b. g. crank.
Miller, No. 1 Milwaukee universal.	Shear, No. 2 Quickwork rotary.
Miller, No. 2-A B. & S. univ., s. p. d.	Shear, 72" Niagara sq., cap. 14 ga.
Miller, No. 2 Cincinnati h. p. vert.	Shear, 96" Stoll, 16 gauge.
Miller, No. 2 Cincinnati plain, v. a.	Shear, squaring, 96", power, 20 ga.
Miller, No. 3 Hendey plain.	Tooth rounder, 12" Rochester.
Miller, No. 4 Cincinnati plain.	Wire straightener, No. 1 Shuster,
Miller, No. 29 Oesterlein universal.	4x8' 6".

Our warehouse is full of bargains. What have you for sale?

## SECOND-HAND MACHINERY

### FOR SALE BY

**Kohler Die & Specialty Co.,** - - - - **DeKalb, Illinois**

#### OVEN FURNACE.

One Stewart No. 10 oven furnace for heat treating, annealing and carbonizing; used but a short time; in excellent condition.

### FOR SALE BY

**Syracuse Supply Company.** 314 W. Fayette St., Syracuse, N. Y.

Guaranteed New Machines in original crates at prices below list:

Crucible, FD-104 Hoskins.	Lathe, 14"x8' Monarch.
Drills, 21" Canedy-Otto (2).	Lathe, 16"x6' Monarch.
Drills, 20" Buffalo (4).	Miller, 42" type "B" Briggs.
Grinder, Churchill internal.	Pipe machine, No. 70 Forbes.
Lathe, 14"x6' Hamilton.	Screw mchs., No. 4 W. & S., g.f.h., (3).
Lathe, 16"x8' Hamilton.	Slotter, No. 3 Rhodes.
Lathe, 10"x5' Monarch.	Straightener, No. 24 Corey.
Lathe, 14"x6' Monarch.	Tilted turret, No. 4 Wood.
Exceptional values in Used Tools:	
Automatic screw mch., No. 52 Acme.	Lathe, 28"x12' Draper.
Automatic screw mch., No. 515 Acme.	Miller, No. 5 Becker vertical.
Drill press, 25" W. F. & John Barnes.	Press, No. 69N Bliss.
Drill press, 28" Barnes, sliding hd.	Radial, 4' Cin'ti-Bickford, GB-BD.
Drill press, 4-spindle Reed sensitive.	Shaper, 16" Gould & Eberhardt.
Drill press, 3-spindle Reed sensitive.	Thread miller, Lees-Bradner.
Drill press, 2-spindle Reed sensitive.	Tilted turret, No. 6 Wood.
Grinder, No. 0 Wilmarth & Morman.	Turret lathes, No. 4 Foster (2).
Lathes, 14"x6' American (2).	Turret lathe, No. 2 Warner & S., hollow hex.
Lathe, 14"x6' Monarch.	Turret lathe, 24x26 Pratt & Whitney.
Lathe, 16"x6' Hendey, rebuilt.	Turret lathe, No. 24 s. g. Garvin.
Lathe, 16"x8' American, geared head, rebuilt.	Turret lathes, 3x36 Jones & L. (3).
Lathe, 16"x8' Monarch.	Turret lathe, 2x24 Jones & Lamson.
Lathe, 18"x10' American.	

### FOR SALE BY

**Brown Machinery Co.,** - - - - **2323 N. 9th St., St. Louis, Mo.**

Automatic, Cleveland 2", model A.	Price.....	\$ 750.
Drill & tapper, Barnes 26", all geared, good condition.	Price.....	300.
Drill, Baugh No. 3 multiple, cap. 30 spds., rectangular hd. 20x40".	Price.....	1500.
Grinder, No. 14 Gardner, b. b., disk, dry, 20" disks, good cond.	Price.....	400.
Grinder, No. 6 Besly two-spindle disk, 20" disks.	Price.....	350.
Grinders, three No. 2 Gardner single spindle, double disk, with universal tables; good condition.	Price, each.....	175.
Grinder, LaSalle automatic surface, good condition.	Price.....	275.
Grinder, No. 12 B. & S. 8x36" pl., for wet grinding; good condition.	Price.....	450.
Grinder, No. 1 Brown & Sharpe universal, 10x24; good condition.	Price.....	375.
Grinder, No. 14 Besly single spindle ring wheel.	Price.....	400.
Lathe, 18"x8' Lodge & S., q. c. g., d. b. g.; good condition.	Price.....	475.
Lathe, 16"x9' Lehmann, d. b. g., q. c. g.; good condition.	Price.....	475.
Lathe, 26"x14' Hamilton, q. c. g., d. b. g.; good condition.	Price.....	1200.
Miller, No. 2 Cincinnati b. g. plain, 28x10x19; good condition.	Price.....	500.
Miller, No. 1B Fox, hand & pwr. fd., 18x6x14; new, never used.	Price.....	400.
Polishing & buffing machines, five New Britain drop head, good condition.	Price, each.....	50.
Punch & stake riveter, No. 3 Hilles & Jones 60" throat, rapid action; cap. full depth throat 1/2" in 7/16"; 16,000 lbs.; two stakes.	Price.....	1500.
Screw machine, Wood No. 4 tilted turret.	Price.....	500.
Shear, Niagara 8', 18 ga., foot power, square, splendid condition.	Price.....	275.
Shear, Marshalltown No. 134 rotary splitting, cap. 1/2" plate; 4' throat; arranged for motor drive. Like new.	Price.....	750.

Many other bargains. Write for List No. 124.

## SECOND-HAND MACHINERY

### FOR SALE BY

**A. F. Strafer,**

**30 Church St., New York City**

#### BORING MILLS, VERTICAL AND HORIZONTAL.

72" Pond, belted motor drive.

24" Bullard, v. t. l., New Era.

3" & 4" bar Rochester, floor type.

51" Bullard, belt drive.

53" Niles-B.-P. rapid trav., d. c., m. d.

No. 2 Rochester, 3" bar, s. p. d.

60" Niles-Bement-Pond, vertical.

No. 3 Universal horizontal, s. p. d.

12" Betts, geared feed, belt drive.

96" Bickford standard, belt drive.

61" Bullard New Era, v. t. l.

6" bar Niles horiz., knee type.

#### DRILLS, UPRIGHT AND RADIAL.

6" Niles-Bement-Pond universal.

6" Baush, belt drive, new.

5" Baush, belt drive.

4 1/2" Dreses, motor drive.

4" Fosdick, gear box.

No. 310 Baker, heavy duty.

26" Sibley, sliding head.

26" Barnes, sliding head.

#### GRINDERS

No. 16 Blanchard, motor drive.

Springfield Brandes, 12x48" surface.

Norton 16"x72" plain.

10"x24" Landis, self contained.

10"x30" Webster & Perks univ.

No. 3 Modern universal, rebuilt.

#### LATHES

52"-64"x26" Johnson.

50"x30" Pittsburgh, quick change.

44"x24" Niles-P.-B., t. g., belt drive.

35"x34" Pond, 2 carriages.

30"x16" Bradford.

20"x15" Sidney, q. c., d. b. g.

20"-38"x16" Rahn Larmon, slide gap.

20"x 6" American, quick change.

#### TURRET LATHES.

34"x36" Cin'ti Acme flat, modern,

geared head, chuck equipment.

24" Gisholt, 6 1/2" hole thru spindle.

24x26" Greenlee, chuck equipment.

24" Steinkle, new, half price.

No. 4 Foster screw machine.

#### MILLING MACHINES.

No. 4 Cincinnati plain horiz., h. p.

No. 4 Cincinnati h. power vertical.

No. 3 Brown & Sharpe, pl. cone type.

No. 3 Cincinnati vert., high power.

Kempsmith No. 3 univ., cone type.

No. 2 Cincinnati h. p. univ.

30"x14" Ingersoll, 4 heads.

36"x12" Ingersoll, 2 heads.

#### PLANERS.

150"x25", 4 heads, stand, belt drive.

120"x25" Sellers, motor drive.

60"x60"x16" Gray, 4 heads.

54"x54"x16" Sellers, 4 heads.

48"x48"x14" Patch, 4 heads.

42"x42"x10" Cleve'd open s., 3 hds.

36"x36"x8" Sellers, 4 heads, belt dr.

28"x28"x10" American, 1 head, b. d.

#### PIPE MACHINES AND

4" Saunders, belt drive.

1 1/2" Little Giant, auto. head.

1 1/2" National bolt cutter.

2 1/2" to 10" Curtis & Curtis.

#### BOLT THREADERS.

Jarecki 2 1/2", a. c. motor drive.

2" Acme bolt, gear box.

1 1/2" bolt, Wiley & Russel.

2 1/2" Landis bolt threader.

#### PUNCHES AND SHEARS.

No. 6 Quickwork rotary.

No. 10 Quickwork, 60" throat.

No. 4 H. & J. double, 48", t. a., c. m.

No. 2 H. & J. double angle.

No. 6 H. & J. 60" thrt., a. c. motor.

Buffalo armor pl. "U" 25 comb.

No. 5 H. & J., 48" t., a. c. motor.

No. 4-A Quickwork, motor drive.

Morgan & W. gate shear, 9", 1/2" cap.

Pels type beam shear, 6" to 24" cap.

Badger State 9C., 24" t., 1/2" d. e.

Long & Allstatler No. 5, 24" t., s. e.

#### ROLLS.

No. 6 Hillis Jones 25", 1" capacity.

20" N.-B.-P., 15" top roll, latest.

7" Sellers, 1/2" cap., drop end.

12" drop end, 7/16" capacity.

#### SHAPERS.

25" Smith & Mills b. g. crank.

16" Milwaukee b. g. crank.

24" Potter & Johnston universal.

24" Cincinnati, b. g.

#### MISCELLANEOUS.

Air drills, Thor, \$30 up.

Air hammers, 2" & 6", \$15.

Beading & slitt'g mch., Quickwork.

Brake, tinsmith's, 98".

Gas engine, 15 h. p. Novo 2 c., new.

Hammer, 3000 lb. Bell single frame.

Hammer, 3000 lb. Bell double leg.

Hammer, 600 lb. Erie, forging.

Header, Ajax 1 1/2", all steel.

Jointer, 12" American.

Saw, No. 6 Nutter & B., a. c. motor.

Saw table, universal, American.

Screw machines, automatic, all sizes.

Surfacer, single, 30" American.

Tapping attach., 1" Errington.

## SECOND-HAND MACHINERY

### FOR SALE BY

**Mid-West Machine Tool & Supply Co.,**

**Davenport, Iowa**

With a good-as-new, money-back guarantee—Partial list.

Automatic, 14" Cleveland, model A.	Grinder, Oakley tool & cutter, new.
Automatic, 21" & 34" Cleve., model A.	Grinder, 10" x 36" Norton plain.
Boring mill, 24" Bullard.	Hobbers, No. 12 Barber-Colman.
Boring mill, 36" Gisholt.	Millers, No. 2 Hendey plain.
Drill, 36" Colburn heavy duty.	Miller, No. 3 Cincinnati plain.
Drill, No. 22 Natco.	Radial, 4' American sensitive.
Grinders, No. 10 B. & S. pl., s. p. d.	Radial, 4' Western.

### FOR SALE BY

**A. M. Stoehr Machinery Co.,**

**560 W. Adams St., Chicago, Ill.**

Blue printing and drying machine.  
Bolt cutter, 3-spd. Acme, 1" cap.  
Boring mills, 42" Baush, 54 & 60"  
Niles, all have 2 heads, and others.  
Compressors; 6x4 1/2 Gardner, motor  
drive; 3 1/2 x 4 Ingersoll-Rand, belt dr.  
Drill presses, 2 & 4 spindle Henry  
& Wright; 4-spindle Barnes, b. g.,  
p. f., 14", and others.  
Gear hobbers, cutters: 12" Cincinnati;  
48" & 60" Gould & E., 36" Fellows  
gear shaper, and others.  
Grinders, Heald piston ring (4);  
No. 3 LaSalle plain and surface;  
3x15" Norton, and others.  
Hammer, 500 lb. Beaudry, & others.  
Lathes, 22" to 44" McCabe; 14x6  
Rockford, q. c. g., late type; 18x8  
Barnes, heavy duty; 15 & 24 spin-  
ning, and others to 60".  
Oil extractors, centrifugal, (8).  
Pipe machines, 2" & 6" Jarecki.

Milling mchs., No. 25 Becker plain;  
No. 0 Bristol hand; No. 0 Rockford  
plain; No. 2 Van Norman duplex;  
No. 3 Thurston dieing, and others.  
Punch & shears, No. 4 L. & A., d. c.,  
4" thru 4 1/2"; No. 14 W., d. c., 15"  
throat, and others.  
Punch presses, No. 16 Bliss boring;  
Nos. 18, 19 and 20 Bliss; No. 128  
Ams; No. 10 Torris Wold, o. b. i.;  
Nos. 48 & 50 Crosby; No. 69 Stoll  
s. s.; No. 1 L. & A., 4" cap., will  
punch 1 1/2 thru 1", and others.  
Riveters, No. 5-A High Speed.  
Saws, 9x9 Sterling high speed; 12x12  
Racine high speed, and others.  
Screw machines, Nos. 2 & 3 Foster  
(12); Nos. 52 & 53 Acme, others  
plain and automatic.  
Shears, Pittsburgh alligator, 14".  
Welders, both spot and butt.  
Wire strai't'g mche., 3/16" Shuster.

### FOR SALE BY

**W. P. Little Co.,**

**West 9th & Front Sta., Cleveland, Ohio**

#### PUNCH PRESSES.

No. 1 Perkins bench, on stand.	No. SG-55 Ferracute double crank.
No. 18 Bliss, o. b. i.	No. 3 Long & Allstater, dbl. end.
No. 5 Michigan, o. b. i.	No. 14 1/2 Williams & White.

#### SHAPERS.

18" Wallcott b. g. crank.	20" Milwaukee b. g. crank.
---------------------------	----------------------------

#### RADIAL DRILLS.

3' Aurora plain.	4' Gang plain.
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#### TAPPING MACHINES.

No. 1 Garvin automatic.	Rickert & Shafer radial tapper.
-------------------------	---------------------------------

#### BAND SAWS.

30" Thompson, metal.	36" Crescent, wood.
30" Clement, wood.	36" White, wood.

#### GRINDERS.

No. 2 Oesterlein tool & cutter.	No. 3 Modern universal.
No. 75 Heald internal.	No. 6 Bryant internal.
14" Pratt & Whitney surface.	16" Heald rotary surface.

#### MISCELLANEOUS.

Bolt cutter, 2" Reliance.	Miller, No. 13 Garvin.
Broach, 3-A LaPointe Hudson.	Screw mche., Brown & S. No. 1 auto.
Hammer, 250 lb. Morgan steam.	Spline miller, 2" Pratt & Whitney.
Hammer, 250 lb. Bradley upright.	Turret, No. 4 Warner & Swasey.
Miller, 18" Cincinnati.	Turret, No. 6 Warner & Swasey.
Partial list. Send us your inquiries.	150 other machine tools in stock.

## SECOND-HAND MACHINERY

### FOR SALE BY

**Marr-Galbreath Machinery Co.,**

**58 Water St., Pittsburgh, Pa.**

Angle & bar bender, No. 9 Buffalo.  
 Bender & straightener, No. 4 H. & J.  
 Blowers, No. 3 Stur., pressure.  
 Blowers, pos. pres., 2, 2½ & 5" outlet.  
 Bolt cutters, Acme 6", Landis 2½".  
 Bolt cutter, 2" Acme, sgl. 2½" head.  
 Bolt cutter, 2" Acme, dbl., Landis hd.  
 Bolt cutter, 1½" Acme, triple head.  
 Boring mills, Rockford, 2" & 3" bar.  
 Boring mill, No. 21 Lucas hor., 2½" bar.  
 Boring mill, vertical, 72" Betts.  
 Boring mills, 51" Niles; 16"-16" Niles.  
 Boring mill, vertical 84", 2 heads,  
 220 v., d. c. motor, (near new).  
 Brake or press, 10' Robinson, toggle.  
 Bulldozers, Nos. 24, 6 & 30 W. W.  
 Bulldozer, No. 1 W. W. clutch pulley.  
 Compressor, 15x9x10 Bury, motor.  
 Compressor, 2500 cu. ft. L. D. G.,  
 a. c. motor.  
 Compressors, Curtis 2½x3" & 4½x1½".  
 Compressor, 7"x6", Ind. Rand.  
 Compressor, 1300, 888, 599 cu. ft., m. d.  
 Drills, radial, 3" Prentice; 3" Fostick.  
 Drills, 36" Hoefler; 24" Aurora, s. h.  
 Drill, 13" Washburn sensitive.  
 Drill, 28" Barnes, sliding hd., b. g.  
 Drill, 20" Rockford, sl. hd., q. c. g.  
 Drills, 22" Aurora upright (2).  
 Drills, No. 2 Colburn, mfg. type. (4).  
 Drill, Allen, 20" sensitive, 4-spdl.  
 Exhaustors, No. 6 Buffalo.  
 Filing mch., Hartford, bench, ¾" st.  
 Forging machines, 1½, 2, 2½ & 3".  
 Gear cut., No. 11 univ Dwight Slate.  
 Gear h. bber, No. 12 Barber-Colman.  
 Grinder, No. 60 Heald internal.  
 Grinder, Gardner, 16" disc & ring w.  
 Grinder, Diamond dbl. end, 14" wh.  
 Grinder No. 1 Besley 12" disc, swing  
 and angle table.  
 Grinder, disc, No. 10 Besley, 18" wh.  
 Hack saw, Racine high sp., 6x6".  
 Hack saw, No. 4 Marvel, cap. 6x6".  
 Hack saw, No. 7-KC Atkins, 8x8.  
 Hammers, 80, 100 & 125 lb. Bradley.  
 Hammer, st. drop, 1500 lb. Eric, new.  
 Hammers, sgl. fr., 350, 800, 1100, 1500.  
 Hot saw & burring machine, Acme.  
 Keyseater, No. 1 Davis, cap. 1" key.  
 Lathe, gap, 36/60"x12/20" Harringt'n.  
 Lathe, 56"x16" American, trip. grd.  
 Lathe, 42"x32" Am., grd. hd., m. d.  
 Lathe, 42"x30" Pond, triple geared,  
 6" raising blocks.  
 Lathe, 36"x18" American, g. h., t. a.,  
 for constant speed m. d.  
 Lathe, 32"x14", Draper, 2½" h. s.  
 Lathe, 30"x14" L. & S., q. c. g., t. a.  
 Lathes, 27"x10" Lodge & S., q. c. g.  
 Lathe, 18"x10" Porter, s. b. g., c. r.  
 Lathe, 18"x8½" Hendey, pl. change.  
 Lathes, 18"x10" L. & S. & LeBlond.  
 Lathe, 18"x8" Am., q. c. g., tap. att.

Lathe, 16"x8" Bradford, pl. change.  
 Lathe, 14"x6" Monarch, q. c. g., t. a.  
 Lathe, speed, 11"x4" Prentiss, t-rest.  
 Miller, bench, No. 1 Burke, hand.  
 Miller, No. 3½ Fox, hand, 24"x6"x14½".  
 Miller, No. 0½ Cin. pl., 18"x6"x15".  
 Miller, No. 3 LeBlond, pl. ind. hd.  
 Miller, No. 2 Kempsmith universal.  
 Miller, vertical, No. 5-C Becker.  
 Miller, vertical, No. 4, Becker.  
 Miller, vertical, No. 2½ Becker.  
 Miller, Hendey Lincoln with count.  
 Miller, Knight duplex, tbl. 8½"x32".  
 Miller, No. 0 Kempsmith universal.  
 Miller, No. 2 Cinc'i, plain 32"x9x20.  
 Miller, vertical No. 0 & 1 Bickett,  
 rotary table.  
 Motors, 10 h. p., 110 v., d. c.; ½ h. p.,  
 230 v., d. c.  
 Nuttapper, ½" Acme 6-sp. semi-auto.  
 Oil separator, No. 2 Koper, belt.  
 Pipe mchs., 4" Oster, belt drive.  
 Pipe machine, 8" Saunders.  
 Planer, 60x60"x12" Pond, 3 hds., m. d.  
 Planer, 42"x42"x12" Betts, 1 head.  
 Planer, 42"x36"x20" Cin'ti, 4 heads.  
 Planer, 30"x30"x8" Niles, hy., 1 hd.  
 Planer, 26"x26"x8" Niles, 1 head.  
 Planer, 24"x24"x6" Gale, 1 head.  
 Planer, 24"x24"x5" New H., 1 hd.  
 Press, No. 27 Bliss, horning, b. g.  
 Press, No. 56 Toledo, pl. trim., 3" str.  
 Press, No. 11 Perkins, pl. trim., 4" str.  
 Press, No. 82 Consolidated horning.  
 Press, C-5 Ferracute, o. b. i., plain.  
 Press, 83 Bliss, 10" stroke, geared.  
 Press, 65-N Bliss (cam), plain.  
 Press, tie rod, S. S., dbl. cr., 37" bet.  
 hsgs., 2" str. 14000 lb., belt or mtr.  
 Press, 152-B Bliss (Cleveland), 38"  
 between housings.  
 Press, 93-A Toledo, double crank.  
 Punch, Cleveland 7" tht., cap. ¾"x½".  
 Punch, 15" thts., dbl., ¾"x½", arch. jaws.  
 Punch & shear, H. & J., 72" tht.,  
 cap. 1½"x1½", motor drive.  
 Pyrometer, 32 to 3000 deg. F.  
 Riveter, ½" Shuster, style A.  
 Rivet hammers, 3-A, 4-A, 5-A, hi. sp.  
 Rivet spinner, 3/16" Grant rotary.  
 Rolls, bending, 30"x½" H. & J., d. e.  
 Saw, No. 11½ Higley, cap. 4" blade.  
 Shaper, 15" Kelly, sgl. grd. crank.  
 Shaper, 21" American, b. g., crank.  
 Shears, Quickwork No. 6, m. d.  
 Shear, splitting, No. 26 Beloit, cap.  
 ½", m. d.  
 Shear, rotary, ½" Lennox, 8' gap.  
 Shear, squaring, 42" Niagara, ft. pwr.  
 Sloters, 16"x18" Bement-Miles.  
 Testing mchs., 100,000, 200,000 lbs.  
 Turret lathe, No. 1 Bardons & O.  
 Turret lathe, Libby 21", motor drive.  
 We Buy, Sell and Exchange.

## SECOND-HAND MACHINERY

### FOR SALE BY

**Clark Machinery Co., 1235-45 St. Clair Ave., Cleveland, O.**

Automatics, Nat'l Acme Nos. 515 & 53

Drill, 20" plain, wheel and lever.

Drill, 22" back geared and p. f.

Lathe, 17"x8' Sidney b. g., q. c. g.

Lathe, 16"x8' Lodge & S. q. c. g.

Miller, No. 2 Cincinnati universal.

Machine tools for every purpose. Send us your inquiries.

Miller, No. 1B LeBlond, plain.

Millers, Becker vertical Nos. 2 & 5.

Planer, 42"x42"x8' Gray, 2 heads.

Planer, 24"x24"x8' Whitcomb.

Screw machines, Warner & Swasey

Nos. 1, 2, 4 & 6.

### FOR SALE BY

**Tubor, Velick & Co., Inc., - - 628-630 W. Lake St., Chicago, Ill.**

**Telephones: Monroe 4199-6813. No Branches**

#### PUNCH PRESSES.

No. 3 Walsh.

No. 4 American Can.

No. 7 Beatty, cap. 1 1/2" in 1".

No. 15 Torris Wold.

Perkins punch presses, 4" str. (20).

Nos. 13 & 15 single end punches.

Long & Allstatter horn punch, capacity 1 1/2xl.

#### DRILL PRESSES.

14" Excelsior.

20" b. g., p. l., new, \$130.

26" Weigel.

30" Reed-Prentice.

Demco high-speed drills.

Bench type drills.

#### MILLING MACHINES.

No. 2 LeBlond.

No. 2 Cincinnati vertical.

No. 2 Cincinnati universal.

No. 3 Kempsmith.

A number of hand millers.

#### LATHES.

11"x 5' Sterling.

15"x 8' Sidney, q. c.

16"x 6' Sidney, q. c., (2).

16"x 6' Monarch q. c.

16"x 8' Canedy-Otto.

16"x 6' Hendey, q. c., taper att.

16"x 8' South Bend, q. c.

17"x 8' Sidney, q. c.

15"x 8' Chard.

19"x10' Sidney, q. c., (2).

20"x 8' Lodge & Shipley, geared head, s. p. drive.

24"x10' Canadian, q. c., d. b. g., (3).

25"x10' Sidney.

Dalton Six.

#### PLANERS.

24"x24"x8' Pond.

24"x24"x 8' Putnam.

30"x30"x 8' Fitchburg.

36"x36"x 7' Flather, 2 heads

#### SHAPERS.

16" Ohio.

16" Whipp, b. g.

24" Rockford.

24" Kelly.

#### SCREW MACHINES.

No. 2 Smith, hand.

#### GRINDERS.

No. 2 Manhattan surface.

Gardner No. 7 & No. 8 disc grinders.

No. 14 Besly, disc.

10x36 Thompson, new.

Emery grinders, #2 and up.

#### WOOD-WORKING MACHINERY.

Band saws, 36" Famous, new, (10).

Boring mills, Andrew, (3).

Glue jointer, Falls

Jointers, 4" D. C. Wallace.

Planer, 30" Berlin.

Saw table and jointer combined, portable.

Shapers, double spindle, Whitney and Fay.

Swing saws, Porter, (4).

#### MISCELLANEOUS.

Buffers, U. S. and Westinghouse, 5 h. p., b. b.

Cold saw, No. 20 Lea-Simplex.

Hack saws.

Keyseaters, Davis.

Lift trucks, Barrett, 1 ton cap.

Motors, a. c. and d. c.

Punch & shear, No. C Cleveland.

Paper cutter, 38" Oswego, direct driven, a. c. motor.

Radial drill, 30" Canedy-Otto.

Radial drill, 32" Cin'ti Bickford.

Time clocks, International.

Trucks—1,000 factory trucks.

Woodworking machines.

Leather belting. Pulleys, shafting and hangers.

## SECOND-HAND MACHINERY

### FOR SALE BY

**Passman Bros.,** - 705 Washington Blvd., Chicago, Ill.

### TOOL BITS.

High speed tool bits 5/16" and 3/8", at 75 cents per lb. Sold on money back guarantee.

### FOR SALE BY

**The Strong, Carlisle & Hammond Co., Cleveland, O., Detroit, Mich.**

### ENGINE LATHES.

- |  |   |
|--|---|
| 12"x 5' Hendey, c. r., q. c. g., with pan bed.                                 | 15"x 6' South Bend, c. r., complete.                                    |
| 12"x 6' Seneca Falls, c. r. and t. a., with relieving att.                     | 16"x 6' South Bend, c. r., complete.                                    |
| 14"x 6' LeBlond, l. c. g. and chuck.   | 18"x 8' Prentice c. r., l. c. g., chuck.                                |
| 14"x 6' Hamilton.  | 18"x 8' Monarch, 3-step cone, d. b. g., q. c. g.                        |
| 14"x 6' Monarch, c. r., standard.  | 18"x 8' Schumacher-Boye & Emmes, c. r., 3-step cone, s. b. g., q. c. g. |
| 14"x 6' Prentice Bros., s. b. g., l. c. g., with t. a., with 8" 4-jaw ind. ck. | 18"x 10' Star, 4-s. c., s. g., with 16" 4-jaw ind. chuck.               |
| 14"x 8' Monarch, c. r., stand. pattern.  |   |

### TURRET LATHES AND SCREW MACHINES.

- |   |  |
|---|--|
| No. 2-A W. & S. g. h. tur. lathes.  | 1" Biggs, p. h., a. c. & b. f.                                   |
| No. 3-A W. & S. g. h. turret lathe.                                       | No. 4 W. & S., p. h., a. c. & b. f.                              |
| 18" Acme screw mche., p. f. to tur.                                       | No. 2 W. & S., p. h., a. c. and b. f. (4).                       |
| 26" Gisholt heavy duty turret lathe.                                      | No. 2 W. & S., p. h., a. c. and b. f., with p. f. to turret (5). |
| 2"x 24" Jones & L. g. h. flat turret.                                     | No. 4 W. & S., g. f. h., a. c. and b. f. (4).                    |
| No. 00 Brown & Sharpe auto., (8).   | 18" Libby, factory rebuilt.                                      |
| No. 0 Brown & Sharpe auto. (2).   | No. 2-G B. & S. automatics (3).                                  |
| No. 2 Brown & Sharpe auto. (2).   | No. 2 B & S. turret forming (2).                                 |
| No. 2 Warner & S. p. h. screw mchs., a. c. & b. f., p. f. to turret. (3). |  |

### DRILLING MACHINES.

- |   |  |
|---|--|
| 20" W. F. & John Barnes, stationary head, b. g. and p. f. (2).      | 20" W. F. & John Barnes, stationary head, p. l. f., (2). |
| 24" Baker heavy duty.   | 12" Mechanics, friction driven.                          |
| 24" Barnes "Camel Back," b. g., p. f.                               | 6-sp. 12" Leland-G., h. s., b. b. (6).                   |
| 4-spindle Leland-Gifford, h. s., b. b., with p. f. to each spindle. | 12" 3-sp. Leland-G., h. s., b. b. (4).                   |
| 24" Mueller plain radial with t. a.                                 | 14" 3-sp. Leland-G., h. s., b. b. (3).                   |
| 6' arm Western radial, with tap. att., arranged for motor drive.    | 14" 4-sp. Leland-G., h. s., b. b. (3).                   |
| 20" Superior, stationary hd., p. l. f.                              | 14" 2-spdle. Avey, h. s., b. b., (2).                    |
| 20" Hamilton, w. and l.   | 14" 3-spdle. Henry & W., h. s., b. b.                    |
|   | 14" 4-spdle. Henry & W., h. s., b. b.                    |

### MILLING MACHINES.

- |  |                                       |
|--|---------------------------------------|
| No. 0 Bickett, hand, bench type (7).               | No. 2-B B & S. plain, constant s. dr. |
| Toledo hand milling machines (2).                  | No. 14 Rockford plain, with div. hd.  |
| No. 24 K. & T. vertical, arranged for motor drive. | No. 24 Ohio plain b. g. complete.     |
|  | No. 1-Y Brown & Sharpe plain.         |

### GRINDERS.

- |                                      |                                     |
|--------------------------------------|-------------------------------------|
| No. 10 B. & S. plain, (2).           | No. 1 LeBlond cutter grinder.       |
| No. 6-A Bryant internal.             | Type "DE" Hisey-Wolf internal.      |
| No. 2 B. & S. surface.               | No. 11 B. & S. plain grinders, (5). |
| No. 3 Brown & Sharpe universal.      | Plain emery wh'l stand with column. |
| LaSalle combination pl. and surface. |                                     |

### SHAPERS AND PLANERS.

- |                           |                                    |
|---------------------------|------------------------------------|
| 15" Flather crank shaper. | 18" Walcott plain crank.           |
| 16" Hendey friction, (2). | 24" Queen City heavy duty bk. grd. |
| 16" Ohio plain crank.     | 22"x 22" x 5' Putnam planers (2).  |

### METAL CUTTING TOOLS AND SQUARING SHEARS.

- |                                   |                                      |
|-----------------------------------|--------------------------------------|
| Higley cold saw.                  | 30" Niagara foot power squar. shear. |
| 3" new Davis cutting-off machine. |                                      |

### GEAR CUTTERS AND HOBBSERS.

- |                                  |                               |
|----------------------------------|-------------------------------|
| 26" & 36" No. 3 Brown & S. auto. | No. 12 Barber-Colman hobbers. |
| No. 13 Brown & Sharpe auto.      | No. 12 B. & S., bevel, (2).   |

### HAMMERS.

- Quickwork body hammer.

## SECOND-HAND MACHINERY

### FOR SALE BY

**Botwinik Brothers,**

**67 Water St., New Haven, Conn.**

### MILLING MACHINES

15 Hendey No. 2 $\frac{1}{2}$  Lincoln type milling machines, complete with arbors, shafts, etc.; good working condition. Price \$100.00 each, net, f. o. b. cars, New Haven, Conn.

Wire, write or phone.

### FOR SALE BY

**Herman L. Winterer,**

**943-53 N. Front St., Philadelphia, Pa.  
LATHES.**

43"x17' 4 $\frac{1}{2}$ " Bement-Miles.  
37 $\frac{1}{2}$ "x14' Johnson d. b. g., q. c. f., t. a.  
32"x12' Pittsburgh, heavy duty, q. c. g.  
27"x12' Bullard.  
26"x11' Wickes, q. c. g.  
26"x10' Niles, q. c. g.,  
25"x14' Hendey, q. c. g., taper attachment, oil pan, (2).  
24"x14' Porter.  
21 $\frac{1}{2}$ "x8' LeBlond.  
20"x8' Walcott, d. b. g., c. g., (2).

20"x 8' Whitcomb Blaisdell, q. c. g.  
19"x10' Draper, patent head.  
18"x 8' Davis, q. c., d. b. g.  
18"x 7' Chard, d. b. g., semi q. c. g.  
18"x6' to 8' lathes, (6).  
16"x 8' Greaves & Klusman, b. g., t. a.  
14"x 8' Filsmith, q. c. g.  
14-22"x6' Barnes extension gap.  
10"x4' Summit, b. g., sliding head.  
And many others.

### TURRET LATHES.

3 $\frac{1}{2}$ x28" Pond, triangle.  
3x36" Pratt & Whitney, hollow hex.  
20" Acme flat, 2 $\frac{1}{2}$ " h. s., motor drive.  
20x7' 6" Pratt & Whitney, back grd.  
20x7' Bridgeport, 2 $\frac{1}{2}$ " h. s.  
19"x7' Fay & Scott, back grd.  
No. 22 $\frac{1}{2}$  Garvin Monitor.

No. 3 Kempsmith.  
14"x 8' Warner & Swasey.  
16"x6' Johnson, back grd.  
No. 3 Bardons & Oliver back grd.  
14 $\frac{1}{2}$ "x5' 3" Pratt & Whitney, (2).  
No. 3 Foster Kimball.

### DRILL PRESSES.

42" Gang radial, s. p. speed box.  
40" Barnes horizontal radials, (2).  
36" Bickford radial, circular base, motor driven.  
34" Barnes, s. h., geared face, comp. table.  
30" Davis & Egan radial.

28" Rockford, q. c. g. feed, (2).  
24" Aurora.  
20" Champion, stationary head.  
20" Excelsior, stationary head, (2).  
Henry & Wright sensitive.  
Plain drills, all sizes.  
Drill presses, assorted sizes.

### MILLING MACHINES.

28"x8' Ingersoll horizontal slab.  
No. 5 Cincinnati, table 9 $\frac{1}{2}$ x50 $\frac{1}{2}$ ".  
No. 15 Garvin, table 12x42".  
No. 3 Becker Brainard, table 12x40".  
No. 3 Hendey-Norton, q. c. g.

No. 5-C Becker vert., rotary table.  
No. 5-B Becker vert., table 14x43.  
No. 3 Becker vert., rotary table.  
No. 7-H Lincoln type Becker miller.  
No. 1 Milwaukee plain.

### PLANERS AND SHAPERS.

12"x10'x25' Sellers planer, 4 heads.  
30"x30"x8' Hewes & Phillips planer.  
30"x30"x8' Putnam planer.  
26 $\frac{1}{2}$ "x26"x 6' Hendey planer.

24"x24"x6' Sellers planer.  
48" Morton draw-cut shaper.  
39" Pedrick & Ayer, open side.  
14" Warren shaper.

### MISCELLANEOUS.

Boring mill, car wheel, 60" Newton.  
Boring, drilling and milling machine,  
17 $\frac{1}{2}$ " Bement Niles horizontal.  
Grinder, 13 $\frac{1}{2}$ "x5' Landis universal.  
Grinder, No. 1 Norton universal.  
Grinder, disc, No. 17 Besly.  
Grinder, disc, No. 14 Besly.  
Grinder, disc, No. 1 Besly.  
Hammer, 15 lb. Bradley helve.  
Hammer, 25 lb. Little Giant, m. d.  
Hammer, 40 lb. Bradley, helve.  
Hammer, 60 lb. Hotchkiss.  
Hammers, 60 lb. Bellefonte upright; 2

Hammer, 500 lb. Merrill board drop.  
Hammer, 750 lb. Merrill board drop.  
Hammer, 1000 lb. Merrill board drop.  
Hammer, 1250 lb. Bell steam.  
Keyseater, 18" stroke Morton.  
Punch presses, all sizes, (55).  
Punch & shear, Industrial Wks, d. e., capacity 4" in 4"; squaring 4"x6".  
Riveter, air, 6" gap Allen, cap. 1 $\frac{1}{2}$ ".  
Riveter, air, 25" gap Allen, cap. 1 $\frac{1}{2}$ ".  
Slotter, 14" Niles.  
Tooth rounding mche., Schuchardt & Schutte.

Large assortment of General Machinery. Send for Complete Price List.



## SECOND-HAND MACHINERY

### FOR SALE BY

The Cincinnati Lathe & Tool Co., - Oakley, Cincinnati, Ohio

#### RADIAL DRILL.

Radial drill, either Fosdick or Drees make, with 4' arm; 90% new.

### FOR SALE BY

Brownell Machinery Co., - 11-13 Eddy St., Providence, R. I.

#### BORING MILLS.

24" Bullard, New Era.

24" Bullard rapid production.

30" Baush vertical.

No. 1 Cleveland horizontal.

#### DRILLING MACHINES.

26" Henry & Wright sens. radial.

25" Weigel, sliding head.

23" Snyder, stationary.

14" Francis Reed.

16" Allen, h. s., b. b.

3-spindle Reed-Prentice.

3-spindle Cincinnati.

5-spindle Henry & Wright.

4-spindle No. 34 A Demco, bench.

3-spindle No. 34A Demco, bench.

No. 2 Langelier h s., b. b., bench,

11/32".

#### GEAR CUTTERS.

No. 12 B. & S., universal, 12x8.

No. 13 B. & S. automatic, 18x4.

B. & S. automatic, 26"x8.

#### GRINDERS.

No. 12 B. & S. plain 8x36.

No. 1 Norton univ. tool & cutter.

No. 2 B. & S. tool & cutter.

20" Taylor & Fenn wet tool.

No. 3 Diamond grinders.

#### LATHES.

11"x 4' Mann.

12"x 5' Reed plain turning, taper,

oil pan.

14"x 6' Monarch, q. c. g.

16"x 8' Sidney standard.

18"x 8' Monarch.

18"x 8' Hamilton.

20"x 8' Rousted.

26"x16' Reed, taper.

#### MILLING MACHINES.

No. 2B Rockford universal.

No. 4 Cincinnati, plain and cone drive.

No. 15 Garvin plain.

No. 25 Bilton plain.

No. 6 Whitney hand miller.

#### PLANERS AND SHAPERS.

17"x17"x 5' Whitcomb.

22"x22"x 5' Whitcomb.

24"x24"x 6' Powell.

26"x30"x14' Whitcomb-Blaisdell.

30"x30"x12' Bement Miles.

15" Hendey friction shaper.

15" Potter & Johnston shaper.

24" Potter & Johnston shaper.

#### ROLLING MILLS.

4x6 Standard.

5x 8 McWilliams.

12x18 Standard.

12x15 Hoagland hot rolling mill.

#### PRESSES.

No. 3 Standard inclinable, 2".

No. 4 Manville, pillar pattern, 1 1/2".

No. 1 Standard broaching and drawing, 7", 20 tons.

No. 54 Niagara, geared, 4".

50 lb. Standard, plain drop.

100 lb. M. & G., plain drop.

200 lb. Standard, plain drop.

200 lb. Standard, automatic drop.

No. 24 Atlas arbor press.

No. 7 Greenerd arbor press.

#### SCREW MACHINES.

No. 2 Southworth, wire feed.

1 1/2x18 Pratt & Whitney, b. g., p. f.

No. 2 Garvin, g. f. h., 1 7/16".

2 1/2x24 J. & L. flat turret, chucking.

3x36 J. & L. flat turret, bar & chuck.

No. 2P Potter & Johnston piston and piston ring.

3/8"x 3/4" Cleveland model "B" automatic, good as new.

#### MISCELLANEOUS.

Broaching machine, No. 0 LaPointe.

Cornice brake, 4'.

Coupling, No. 2 Almond 1/2 turn, 10 h.p.

Die filing machine, Thurston.

Oil extractor, No. 2 American.

Shears, 52" Hercules, foot squaring.

Shaft straightener, Rockford 3", 10' bed.

Slotter, 12" Bement-Miles.

Straight edge, Brown & Sharpe, 6'.

Swaging mche., No. 2 Standard rot.

Tapper, No. 2 Garvin vertical.

#### WOOD-WORKING MACHINES.

Band saw, 26" Crescent.

Jig saw, No. 1 Beach.

Saw table, No. 650 Dover.

Saw table, Rollston double arbor.

## SECOND-HAND MACHINERY

### FOR SALE BY

**The Patterson Tool & Supply Co., - - - Dayton, Ohio**

Hoist, new Lansing reversible	Mill, new No. 1 Van Norman, \$ 850.
6 h. p. Novo engine ..... \$ 425.	Radial drill, used No. 50 C-O. 100.
Lathe, new 12"x5' Monarch	Screw mche., used 18" Drees. 200.
q. c. g., d. b. g. .... 480.	Shaper, new 20" S. & M. b. g. 600.
Lathe, new 16"x8' Monarch.... 425.	Shaper, new 28" Columbia b.g. 1500.

### FOR SALE BY

**Nelson Machinery Co., - 123-131 N. Pearl St., Green Bay, Wis.**

Bending rolls, 5', used, 1/2" capacity.  
 Filing machine, used Noble & Westbrook, 1 1/2" stroke.  
 Gas furnace, new Stewart No. 3, for soft metal melting.  
 Keyseater, used No. 2 Mitts & Merrill.  
 Press, used No. 1 Toledo, geared.  
 Screw machine, hand, used No. 2 Pratt & Whitney.

### FOR SALE BY

**Peninsular Machinery Co., 429-31 E. Jefferson Ave., Detroit, Mich.**

#### LATHES.

13"x 5' South Bend, l. c. g.	14"x 8' Monarch, l. c. g., taper.
13"x 5' Champion, l. c. g.	16"x 8' Bradford, l. c. g.
13"x 5' Blount speed lathe.	16"x 8' LeBlond, quick change.
14"x 6' Prentice, l. c. g., (2).	17"x 8' LeBlond, r. p., g. h.
14"x 6' Bradford, q. c.	17"x10' LeBlond auto.
14"x 6' Carroll-Jameson, (4).	18"x8' Monarch, q. c. (2).
14"x 6' Flather, l. c. g.	21"x11' LeBlond, all geared, (2).
14"x 6' Reed, l. c. g., (5).	26"x10' LeBlond crankshaft, (2).
14"x 6' Rockford, l. c. g.	34"x36 Lo-Swing.

#### DRILLING MACHINES.

3-spld. Henry & Wright, h. s., b. b.	28" Barnes, s. h., taper.
22 1/2" Sibley all-geared, p. f., with tap.	26" Hofer, st. h. d.
22 1/2" Sibley all-geared, p. f.	No. 3 Baush multiple.
23" Rockford, s. h., with taper.	25" Fosdick s. h. all-geared taper.
24" Cincinnati, s. h.	

#### MILLING MACHINES.

No. 6 Whitney hand.	No. 1 1/2 Cincinnati plain.
United States hand.	12" Cincinnati plain manufacturing.
No. 0 Steptoe, b. g. and p. f.	No. 2 Brown & Sharpe plain.
No. 0 Farwell q. c.	No. 3H LeBlond plain, cone type.
Briggs type A, (2).	No. 2 1/2 LeBlond univ., cone type.
No. 12 Brown & Sharpe.	No. 2 LeBlond all geared plain.
No. 32 Kempsmith.	No. 2 Kempsmith all geared vert.
No. 33 Kempsmith plain.	

#### TURRET SCREW MACHINES.

1 1/2" Defiance, f. h.	24"x26 Pratt & Whitney, a. c.
2" Milholland, f. h.	No. 4 Warner & S. f. h. turret lathe.

#### GRINDERS AND POLISHERS.

No. 1 Brown & Sharpe universal.	No. 210 Heald magnetic.
10x24 Landis plain.	20" Blount wet grinders, (2).
No. 2 Gardner disc grinder.	No. 4 Webster & Perks polishing.
No. 24 Gardner vertical.	Bennett & O'Connell dbl. sp. pol.
No. 70 Heald internal.	No. 23-B Valley City disc.
No. 50 Heald cylinder.	No. 220 Badger automatic.

#### MISCELLANEOUS.

Band saw, 6" Napier.	Hammer, drop, No. 5 Williams-W.
Centers, bench, Brown & Sharpe.	Lapping mchs., Bethel-Player, (2).
Centering machine, 3' Whiton.	Metal cutter, No. 1 Gray.
Cutting-off mch., 4" Hurlbut-Rogers.	Screw slotter, No. 1 National Acme.
Filer, No. 2 Cochrane & Bly.	Tooth round's, 12" Rochester aut. (2).
Gear tester, bevel, Gleason.	Tumbling barrels, No. 3-S Globe, (2).

## SECOND-HAND MACHINERY

### FOR SALE BY

**F. H. Allen,**

**Donaldsonville, La.**

Geared ladle, second-hand, 38" deep, 49" wide at top, splendid condition.  
Hydraulic wheel press, brand new, latest improved, 48" between tie bars,  
150 tons capacity.

Have no use for these machines and will sell cheap.

### FOR SALE BY

**Hill, Clarke & Co., Inc.,**

**156 Oliver St., Boston 9, Mass.**

Bench lathe, No. 4 Stark.  
Boring mill, No. 1 Lucas horizontal.  
Grinder, Norton 10"x50".  
Grinder, Norton No. 2 cutter & tool.  
Grinder, No. 1 Greenfield universal.  
Lathe, 14"x8' Flather, motor driven.  
taper attach., 230 v., d. c. motor.  
Lathe, 18"x10' Greaves-Klusman.  
Lathe, 24"x14' Fitchburg, 9' centers.  
Lathe, 42"x16' Fitchburg, 9' centers.  
Miller, No. 3 Burke, hand.  
Miller, No. 9 Bristol, hand.  
Miller, No. 1 Dow plain.  
Miller, No. 1 Hendey plain.  
Miller, No. 2A Milwaukee plain.  
Miller, No. 3 Cincinnati plain.  
Miller, No. 3 Cincinnati, high power,  
550 v., a. c. motor drive.

Miller, No. 3B Milwaukee plain.  
Miller, No. 4 Cincinnati, high power,  
vertical attachment.  
Miller, No. 1 Kempsmith universal.  
Miller, No. 3 Cincinnati vertical.  
Pipe machine, Bignall & Keeler 8".  
Pipe machine, Forbes 8".  
Planer, 16"x42" Walter Bros.  
Planer, 16"x42" Hendey.  
Planer, 17"x 4' Whitcomb.  
Planer, 24"x 8' Whitcomb-Blaisdell,  
second belt drive, two heads.  
Planer, 26"x12' Pease, two heads.  
Power presses, No. 3 Consolidated,  
2100 pounds, 2" str. inclinable type.  
Shaper, Kelly 16" back geared crank.  
Shaper, Hendey 24" friction.  
Shaper, Hendey 28" friction.

### FOR SALE BY

**Fitzsimmons & Cole Machinery Company**

**1208 House Building,**

**Pittsburgh, Pa.**

Air compressor, 10"x12", 164 cu. ft.  
Air compressor, Ingersoll, 1180 cu. ft.  
Bending roll, angle, 4"x4"x4".  
Bending rolls, No. 5 H. & J. 12"x4".  
Bending rolls, 6"x4".  
Bolt cutters, 1 1/2" to 4" Landis.  
Borer, car wheel, 45" Pond.  
Boring mill, 30" Bullard turret.  
Boring mill, 36" Niles.  
Boring mill, 42" King, m. d.  
Boring mill, 52" King, m. d.  
Boring mill, 60" Betts, 2 hds., m. d.  
Boring mill, 84" Bullard.  
Boring mill, 144" Pond, 2 heads.  
Drill press, 20" Barnes Camel Bk.  
Drill presses, 24" to 36".  
Drill press, 1 D Colburn.  
Drill, radial, 3' Cincinnati-Bickford.  
Drill, radial, 5' Prentice, s. p. d.  
Engine, oil, 50 h. p. International.  
Flanger, McCabe, 1/2" capacity.  
Grinder, Landis crankshaft, 16"x48".  
Grinder, Landis crankshaft, 16"x68".  
Grinder, Landis plain, 12"x52".  
Hammer, 200 lb. Bradley upright  
helve.  
Hammers, 600 lb. to 6000 lb.  
Hammer, 800 lb. Merrill board drop.  
Lathe, 27"x10' Lodge & S., q. c. g.  
Lathe, 50"x34' Pittsburgh.

Lathe, axle, No. 3 Niles.  
Miller, No. 3-A Garvin plain.  
Pipe machines, 2" to 12".  
Planers, 30" to 12".  
Planer, rotary, 48" Newton.  
Planer, plate, Cleveland 23"x1".  
Press, No. 20 Bliss, o. b. i., 2" str.  
Press, No. 37 1/2 Bliss straight side,  
6" stroke.  
Press, wheel, 300-ton Putnam.  
Punch, multiple, 84" Cleveland.  
Punch & shear, Cinti, 1" thru 1 1/2".  
Punch & shear, No. "A" L. & A., 2"  
thru 1 1/2".  
Punch & shr., H. & J., 1 1/2" thru 1 1/2".  
Punch & s., Pels, type RHLUEF-16.  
Riveter, 70-ton Hanna, 18" reach.  
Sand blast, MacLeod, 36"x36".  
Shaper, 24" Gould & E., bk. grd.  
Shear, angle, 8"x8"x1 1/2" L. & A.  
Shear, guillotine, No. 3 Hilles & J.  
Shear, plate, Newbold, 12"x4".  
Shear, rotary, Quickwork, 60" th'rt.  
14 gauge.  
Straightener, 30" Waterbury-F. 3".  
Testing machine, 100,000 lb. Olsen.  
Turret lathe, No. 2-A Warner & S.  
Turret lathe, No. 4 W. & S. univ.  
Turret lathe, 24"x6" Gisholt.  
Welder, butt, Thompson, cap. 1 1/2" rd.

## SECOND-HAND MACHINERY

### FOR SALE BY

#### Bennett Machinery Co.,

Boring mill, 51" Bridgeport, 2 hds.  
Grinder, univ. cutter and reamer,  
Draper & Hall.  
Lathe, 24"x12" Johnson, geared hd.,  
quick change, taper.

#### 30 Church St., New York City

Pipe machine, 8" E. C. & B.  
Pipe machine, 3" Jarecki No. 7B.  
Planer, 54"x12" Pond, 4 heads.  
Planer, plate, 18" Niles.  
Shaper, 20" Walcott heavy duty, 95%.

### FOR SALE BY

#### The O'Brien Machinery Co.,

Drill, 32" Aurora, motor driven, tapping attachment.  
Drill press, 24-spdl. multiple Natco, motor driven.  
Grinders, foundry, Norton heavy duty, (3).  
Hammer, 100 lb. Massillon, steam.  
Lathe, 22"x11" Lehmann, geared head, taper attachment.  
Lathe, 22"x12" Mueller.  
Lathe, 24"x12" Schumacher & Boye.  
Lathe, 26"x21" Whitcomb-B., mtr. dr.  
Lathe, 36"x15" L. & S., taper attach.  
Miller, No. 3 Kempsmith universal.  
Pipe machines, 2", 4", 6", 8" & 12"  
Oster, Cox, Eaton-Cole & Burnham and Jarecki makes, belt or motor driven, complete stock.  
Press, No. 54 Toledo gr. str. side.

#### 113 N. Third St., Philadelphia, Pa.

Planer, 36"x36"x12" Woodward & Powell, motor driven, 3 heads.  
Presses, Nos. 15, 19 and 20 Bliss.  
Planer, 54"x54"x14" Pond Machine Tool Co., two heads.  
Punch and shear, No. 3 Hilles & J., dbl. end, motor dr.; punch end, 42" thrt., cap. 1 1/2" thru 1"; shearing end, 36" thrt., cap. 1" plate, 2 1/2" round, 7"x1 1/2" flat, 5"x5"x8" angle.  
Punch and shear, Pels combination: punching cap. 1" thick; shearing, 2" rd., 2 1/2" squares, 6x6x1 1/2" angles.  
Radial drill, 36" Gang.  
Radial drill, 5" Mueller.  
Shapers, 12", 14", 16", 21" and 24" stroke, assorted makes.  
Turret lathe, No. 6 1/2 Bardons & Oliver, 2 1/2" w. f. cap., cabinet base.

### FOR SALE BY

#### J. E. Haetten & Co., Inc.,

#### 50 Church St., New York, N. Y.

Boring mill, 72" Gisholt vertical, rapid traverse, g. f.  
Boring mill, 51" Bullard vertical, g. f., arr. for motor.  
Drill 4-spindle No. 4 Foote-Burt heavy gang.  
Drill, 24" No. 25 Foote-Burt, single spindle.  
Drills, radial, 36" Carlton sensitive plain, tapping attachment, (3).  
Drills, 36" Snyder, sliding head, like new, (2).  
Drills, model F Turner 4-spindle turrets, (3).  
Grinders, 16x48 Landis crankshaft, like new, (3).  
Grinders, 10x72 Norton plain, belt drive, (3).  
Lathe, 76"x36" Niles-Bement-Pond, t. g., rapid traverse, arr. for motor.  
Lathe, 42"x20" Pittsburgh, t. g., q. c., blocks to 60".  
Lathe, 24"x12" LeBlond, heavy, d. b. g., q. c., cabinet legs.  
Lathe, 20"x12" Johnson, geared head, q. c., chuck, taper.  
Lathe, 14"x6" Hendey, q. c. g., pan bed, taper attachment.  
Lathe, 12"x5" Master g. h., loose c. g., t. & l. pulley drive.  
Lathes, bench, new B-4 Dalton, 30" and 36" beds, (3).  
Mill, 54" Bullard New Era, threading and lubricating.  
Mill, 36" Bullard New Era, threading and lubricating.  
Mill, 24" Bullard New Era, chuck, s. p. d.  
Miller, No. 4 Cincinnati plain, rapid traverse, s. p. d.  
Millers, No. 2 Cincinnati vertical, 4-step cone, rotary table, (3).  
Miller, 30" Oesterlein tilted rotary.  
Miller, No. 3 Hendey plain s. p. d., vertical attachment.  
Miller, No. 2 Van Norman duplex, sub-head, etc.  
Millers, 54"x20" Ingersoll, 8 heads and 12 heads, m. d., (2).  
Planers, 28"x10" Putnam, 2 rail heads, like new, (2).  
Planer, 42"x42"x16" Powell, 3 heads, very good.  
Press, No. 3 1/2 B Bliss toggle drawing, like new.  
Presses, Nos. 19 & 20 Bliss or Zeh & Hahneman, o. b. i., (5).  
Thread miller, No. 6 Lees-Bradner, 1 1/2" single thread capacity.

## SECOND-HAND MACHINERY

### FOR SALE BY

**H. Glasser Machinery Co.,**

**30 S. Clinton St., Chicago, Ill.**

Band saw, 30" Fay & Egan.

Bolt cutter, 1½" Acme.

Brake, power, 8", 10 ga.

Drill press, 24" Foote-Burt.

Drill press, 24" Becker, h. d.

Grinder, 12"x42" B. & S. univ.

Grinder, No. 2 B. & S. surface.

Lathe, 30"x12" Lodge & Shipley.

Paper cutter, power, 38".

Planer, 26"x26"x7" Ohio.

### FOR SALE BY

**Chas. Molitor Machinery Co.,**

**118-124 S. Clinton St., Chicago, Ill.**

#### LATHES.

36"x14" American, q. c. g.

33"x10" LeBlond, q. c. g., hvy.

30"x14" LeBlond, q. c. g., heavy.

24"x16" LeBlond, plain.

26"x10" Niles, q. c. g.

24"x12" Walcott, q. c. g.

24"x10" Lodge & Shipley, grd. hd.

20"x8" Advance, q. c. g.

18"x8" Walcott, q. c. g.

18"x8" Sidney, q. c. g.

18"x8" Hendey, taper, draw-c. att.

16"x6" Hendey, taper attach.

16"x8" Pratt & Whitney, q. c. g., taper, relieving attachment.

16"x6" Bradford, q. c. g.

16"x6" Walcott, q. c. g.

14"x6" Hendey, taper, draw att., (2).

13"x11" Sebastian.

12"x5" Pratt-W., taper, draw collets.

10 Cataract, Pratt & Whitney, Rivett and Elgin bench lathes.

#### MILLERS.

24" Bullard.

No. 2 Kempsmith universal.

No. 1B Milw'kee, sgl. pulley, dbl. arm.

National Transit Co. plain.

No. 3 Becker vertical.

No. 4H Becker vertical (2).

Gooley & Edlund, production.

2½" Twin spline miller, P. & W.

Bristol, Whitney, U. S. hand.

#### RADIALS AND DRILL PRESSES.

36" American.

36" Mueller Tool Co.

30" Drees, Mueller.

24", 26" Prentiss, Cincinnati, etc.

2, 3 spdl. 24" Aveys, 1" cap. (3).

4 spdl. Gooley & Edlund, 1" cap.

1, 2, 4, 6 sp. Allen, Aveys, 1" cap. (8).

1, 2, 4 spindle Leland Gifford, 1" cap.

2, 4 spdl. Leland Gifford, 1" cap.

Large variety 14", 16", 20" drills.

#### GRINDERS.

Nos. 2 & 3 Brown & Sharpe univ.

Nos. 1 and 2 Cincinnati universal.

Oakley universal.

No. 1 B. & S. cylindrical.

4"x20" Norton cylindrical.

No. 11 Brown & Sharpe.

Fitchburg, Landis, Greenfield.

18", 26", 40" disc, Gardner, Besly.

No. 23 Brown & Sharpe cylinder.

Nos. 60 & 65 Heald cylinder.

#### SHAPERS AND BOLT CUTTERS.

20" Milwaukee

1½" Acme, dbl. hd., lead screws.

#### SCREW MACHINES AND TURRET LATHES.

Jones & Lamson dbl., sgl. spindle.

Nos. 0, 1, 2 B. & S. semi-auto.

No. 6 Foster, power long. & cross fd.

Nos. 0, 1, 2, 3 Foster, Bardons &

Oliver, Garvin, W. S., P. & W.

2" National Acme.

1" and 1½" Geometric.

1" & 1½" cap. Acme, b. g., frict. h.

1", 1½", 2", 2½" Cleveland auto.

Nos. 0 & 00 B. & S. automatics.

1" Gridley 4-sp. automatic.

#### PUNCH PRESSES AND SHEARS.

No. 6 Bliss, Stiles pattern.

No. 3 Long & Allstatter inclinable.

No. 3 Walsh inclined.

No. 5 Robinson.

No. 3 Black & Johnson.

#### GEAR CUTTERS.

26" No. 3 Brown & Sharpe auto.

No. 13 B. & S., bevel & spur. (2).

Nos. 1 & 1½ Standard auto., (6).

Waltham automatic, (4).

No. 10 Bilton gear hobbors, (4).

#### MISCELLANEOUS.

Readers, power.

Corrugating machine, steel, 7"x36",

rollers 4"x10".

Hammer, 60 lb. Bradley.

Rivet spinners, Grant.

Drill & lathe chucks, Stromberg periodograph, time clocks, time stamps, etc.

Shears, circle and slitting.

Shears, 60" serpentine & splitt'g, (7).

Spot welders, Toledo and Thomson.

Tapping machines, all sizes.

Wire straighteners, 3/16" - 3/8" Schuster.

## SECOND-HAND MACHINERY

### FOR SALE BY

**R. R. Holcomb, - - 3535 South Ashland Ave., Chicago, Ill.**

#### LATHES.

One South Bend lathe, 15" swing, 5' bed; complete with countershaft, 4-jaw chucks, 14" face plate, steady rest, follow rest, change gears; price very reasonable.

### FOR SALE BY

**Donahue Steel Products Co., - 204 N. Jefferson St., Chicago, Ill.**

Bulldozers, Nos. 1, 2, 3, 4, 5 & 6 Williams & White.  
 Gas furnace, American No. 64 heating machine for blueing.  
 Hammers, cushioned helve, 25, 40, 60, 80, 100 & 200 lb. Bradley.  
 Hammers, upright, 50, 100, 200, 300 & 500 lb. Bradley.  
 Hammers, upright, Bradley strap, 30, 50, 75 and 100 lb.  
 Hammer, crank lift drop, Williams & White No. 5.  
 Hammer, board lift drop, 600 lb. Williams & White.  
 Punch, s. e., No. 1 Long & A., 1 1/2" thru 1", arch. jaw, motor drive, 3" stroke.  
 Punch, Rock River, 1 1/2" thru 1", 24" throat.  
 Punch & shear, d. e., No. 14 Williams & White, 1 1/2" thru 1".  
 Punch & shear, Cleveland, c. f., 30" throat, arch. jaw, gag socket punches, 1 1/2" thru 1".  
 Saws, hot, Nos. 2 & 3 Ajax.  
 Shears, bar, Long & Allstatter, table cast on slant, cap. 1 1/2" round.  
 Shears, bar, Long & Allstatter No. 2, table cast on slant, cap. 2" round.  
 Shear, alligator, Dolger & Kirstin, capacity 1 1/2" round.  
 Shears, Pels 5" & 6"; United Engineering 4" guillotine.  
 Storage battery elevating platform truck. Automatic Transportation Co.  
 Threading machines, one No. 1; one 1 1/2" sgl. spdl. Landis; two 1" dbl. spdl. Landis, with lead screws; one 3" single spindle Morgan Reliance.  
 Thread rollers, one each 1/2", 3/4", 1" and 1 1/2".  
 Tumbling barrels, 24x50 and 30x50 Sly. (2).  
 Upsetters, 1", 1 1/2", 4" Ajax; 1" Acme; 1 1/2", 2" National.

All of the above in our Chicago stock.

### FOR SALE BY

**The Randle Machinery Co., 1723 Powers Street, Cincinnati, Ohio**

#### ENGINE LATHES.

14"x 6" Lodge & S., q. c.....	\$ 450.	24"x 8" Schumacher & Boye,	
15"x 6" Flather, loose change.	200.	loose change.....	\$ 500.
16"x 8" LeBlond, loose chge.	300.	24"x14" Lodge & Shipley, q. c.	1,500.
21"x10" LeBlond, quick chge.	750.	48"x24" Niles, loose change...	2,000.

#### PLANERS.

32"x32"x14' American, 2 heads.....	\$1,250.
36"x36"x14' American, 2 heads.....	1,350.
36"x36"x18' Niles, double housing, each housing equipped with 2 rail heads, motor drive.....	1,500.
42"x42"x26' Cincinnati, 2 heads.....	2,250.
60"x60"x30' Niles, 4 heads, motor drive.....	3,000.
Pedrick & Ayer open side, planes 30" wide, bed 11' long.....	1,000.

#### MISCELLANEOUS.

Bolt cutter, Acme 4" sgl. hd....	\$ 750.	Radial drill, 6' Niles full univ.,	
Boring mill, 8' Niles, belt dr.	1,500.	d. c. motor dr., with motor..	\$ 750.
Drill press, 45" upright, back geared, power feed.....	300.	Shaper, 12" Pratt & Whitney	
Drill press, 24" Aurora up-right, back gear, pwr. fd....	275.	crank, traveling head.....	300.
Grinder, No. 60 Heald cylinder	750.	Shaper, 29" Smith & Mills,	
Hack saw, Kwik Kut, power,		back grd. crank, late type..	800.
14" blade.....	50.	Shaper, 16" Barker b.g. crank	665.
Miller, No. 3 Cincinnati pl....	800.	Turret lathe, 24" Gisholt, d.c.	
		motor drive, with motor....	500.

Many other bargains. Send us your requirements.

## SECOND-HAND MACHINERY

### FOR SALE BY

**Delta Equipment Co., - - 148 N. 3rd St., Philadelphia**  
**DRILLING MACHINES.**

20" Buffalo b. g.	\$ 100.
21" Foote-Burt heavy duty, 2 $\frac{1}{2}$ " dia. spindle nose	300.
24" Prentice, b. g., sliding head, geared feed	275.
24" Baker heavy duty, high speed, 3 $\frac{1}{2}$ " dia. spindle	500.
28" Rockford, b. g., sliding head, geared feed	325.
30" Mueller radial, cone drive	400.
36" American radial, gear box drive	1000.
5' Dreses radial, gear box, motor drive	1850.

### PIPE MACHINES.

6" Eaton, Cole & Burnham, belt drive	\$ 600.
4" "Crane" Eaton, Cole & Burnham, motor driven	500.

### SHAPERS.

15" Kelly	\$ 300.	20" Gould & E., b. g., (2) ea.	\$ 250.
16" Cincinnati	450.	20" G. & E., b. g., old style	450.
16" Hollingworth, b. g.	450.	24" Kelly, back geared	675.

### TURRETS.

No. 2 Foster, friction head, cap. 1 1/16", new	\$ 350.
No. 3 Hardons & Oliver, friction head, cap. 1 $\frac{1}{2}$ ", lot of equipment	600.
No. 8 Warner & Swasey, friction head, cap. 3 $\frac{1}{2}$ ", (2) each	750.

### FOR SALE BY

**Wm. C. Johnson & Sons Machinery Co.,**  
**1211-1223 N. 12th St., St. Louis, Mo.**  
**DRILLING MACHINES.**

3' arm Mueller, radial, s. b. drive.  
 3 $\frac{1}{2}$ ' arm post drill.  
 Barnes drills, all sizes.

24" Aurora, sliding head.  
 34" sliding head.

### MILLERS.

No. 2 Kemp Smith.  
 No. 2 Brown & Sharpe plain.  
 No. 4 Cincinnati plain, single pulley.  
 No. 5-B Brown & Sharpe.  
 No. 33 Kemp Smith.

No. 2 Rockford full universal.  
 No. 2 Knight vertical.  
 Nos. 0 and 3 Burke bench.  
 Whitney hand miller.

### GRINDERS.

5"x18" Ott grinder.  
 10"x36" Thompson universal.  
 No. 6 St. Louis.

30"x84" Diamond face grinder.  
 12"x48" Landis plain.  
 Yankee twist drill.

### PLANERS.

24"x24"x 6" Lodge & Davis.  
 32"x30"x 7" Whitcomb.

36"x36"x10' Flather.

### SHAPERS.

Smith & Mills, all sizes.  
 15" Hendey, arranged for motor.  
 24" American.

16" Flather, 4 speeds.  
 16" Cincinnati.

### LATHES.

9"x12" Sundstrand.  
 14"x 6" Monarch, q. c.  
 14"x 6" Sidney, q. c.  
 18"x 8" Greaves & Klusman, q. c.  
 20"x 9" Cisco, q. c.  
 21"x 8" Sidney, q. c.

24"x12' Advance.  
 26"x13' Putnam, q. c., arranged for motor.  
 30"x15' American, q. c.  
 33"x20' Draper, triple geared.  
 36"x18' Prentice Bros., t. a.

### MISCELLANEOUS.

Boring machine, horizontal, No. 2  
 Pawling & Harnischfeger.  
 Boring mill, No. 1 Binsse horiz.  
 Broacher, No. 1 LaPointe.  
 Bulldozer, 75-ton Lourie hydraulic.  
 Engines, Corliss, 75 to 200 h. p.  
 Magnetic pulley, 24"x26".  
 Pipe machine, 16" Bignall & Keeler.  
 Press, portable, hydraulic.

Punch, No. 5 Long & Allst., 5" thrt.  
 Punch, No. 7 Long & Allst., 4" thrt.  
 Riveter, 24" Shepard.  
 Screw machine, No. 6 Woods.  
 Shear, squaring, 10' Ohl, 3/16 cap.  
 Sheet metal cutter, No. 1 Gray.  
 Tilted turret lathes, Wood, (3).  
 Turret, 28" Gisholt, latest.  
 Wheel press, 84", 200 ton.

## SECOND-HAND MACHINERY

### FOR SALE BY

**Machine Tools Sales Company**

**236 Commercial Trust Bldg., Philadelphia, Pa.**

#### DRILLING MACHINES.

Sipp sensitive ball bearing. 2-spindle Avey sens. ball bearing.  
3-spindle Avey sens. ball bearing.

#### LATHES.

24-26" C Libby turret lathe. No. 2 W. & S. hol. hex. tur. lathe.  
18"x6' Hendey engine lathe. No. 2-A W. & S. hol. hex. tur. lathe.  
27"x10' American engine lathe. 18" swing W. & S. Fox lathe.

#### MILLING MACHINES.

No. 2 Cincinnati universal. No. 4 Cincinnati plain.

#### PRESSES.

DG-52 Ferracute str. side, 8" stroke. Henderson press on legs, 2" stroke.  
C-1 Ferracute incl. flywh., 2" stroke. Henderson inclin. dial feed, 2" str.  
Waterbury-Farrel No. 5 dial feed. Waterbury-F. bench power presses.

#### SCREW MACHINES.

No. 0 Brown & Sharpe full auto. No. 00 Index cross drilling attach.  
No. 00 Brown & Sharpe full auto. No. 2 B. & S. hand screw machine.  
No. 00 B. & S. auto. cut-off mche. No. 2 Garvin hand screw machine.  
No. 0 Index cross drilling attach. No. 1 W. & S. hand screw machine.

#### MISCELLANEOUS.

Bolt threader, No. 32 Wells Bros., 14" cap. Screw cap threader, Waterbury-Farrel semi auto.  
Boring, drilling and milling machine, Shapers, 16" Hendey.  
No. 32 Lucas horiz. Truck, lift, type L Auto Trans. Co.  
Pipe machine, 10" Curtis & Curtis "Forbes." Truck, chain drive, type D Auto Trans. Co., with G. E. mercury arc rectifier.  
Planer, 36"x36"x8' Bement Miles.

### FOR SALE BY

**Jones Machine Tool Co.,**

**528-532 E. Front St., Cincinnati, O.**

#### LATHES.

14"x6' Bradford, quick change. 20"x10' Boye & Emmes, q. c.  
14"x6' Monarch, qck. chg., s. p., 20"x12' Greaves Klusman, q. c.  
geared head, (2). 25"x10' LeBlond, q. c.  
16"x6' Lodge & Shipley, qck. chg. 30"x12' H. S. & Gamble, q. c.  
16"x8' Hendey, tool room. 48"x24' Niles, triple geared.

#### MILLERS.

No. 2 Hendey universal. No. 3B—Brown & Sharpe plain.  
No. 2 K. & T. vertical. No. 3 Brown & Sharpe, vertical.

#### PLANERS.

30"x12' Gray, 1 head. 24"x6' Powell, 1 head.  
24"x6' Gray, 2 heads. 42"x36"x26" Cincinnati, 2 heads.

#### PRESSES.

Nos. 4, 5 and 6 Niagara. No. 6 Whiting punch.  
No. 2 Robinson, o. b. No. 8 Long & Allstatter punch.  
No. 6 Toledo, o. b. inc. No. 20 Bliss, o. b. inc.  
No. 4 Stiles b. g. punch. Horning presses, Toledo and Bliss.

#### RADIAL DRILLS.

30" American, s. p. drive. 48" Bickford, cone drive, belt feed.  
36" Mueller, s. p. drive. 48" Bickford, cone drive, gear feed.

#### SHAPERS.

16" Cincinnati b. g. crank. 21" American, back geared crank.  
16" Smith & Mills b. g. crank. 20" Cincinnati, b. g. crank.

#### MISCELLANEOUS.

Bolt cutters, 4" Acme. Grinder, No. 70 Heald.  
Bulldozer, No. 1 Williams & White. Grinder, surface, No. 3 W. & M.  
Drill presses, 24" Sibley & Ware (4). Grinder, abrasive surface.  
Gear cutter, 48" Brown & Sharpe. Grinder, Brown & S., planer type.  
Gear hobbors, No. 12 Barber-C., (2). Square shears, 516A Toledo, power,  
Gear hobber, 24" S. & S. 14 gauge, 15" gap.  
Grinder, No. 60 Heald, cylinder. Square shears, 30" Bertsch, foot  
Grinder, 10x50 Norton. power, 15" gap.



## SECOND-HAND MACHINERY

### FOR SALE BY

**J. L. Lucas & Son, Inc.,**

**3 Fox Street, Bridgeport, Conn.**

#### GRINDERS.

14" Pratt & W. vert., with rot. \$ 950.  
No. 2 Reid, with magnetic chk. 375.  
Production hand surf., (5) ea. 100.  
No. 1 Brown & S. full univ. 500.  
No. 2 Brown & Sharpe univ. 800.  
W. & M., magnetic chuck. 375.  
10x50 Norton cylindrical. 575.  
10x80 Norton cylindrical. 1250.  
No. 11 Brown & Sharpe plain 450.

12x24 Modern self-cont., (2) ea. \$ 675.  
No. 6 Besly, adjustable discs. 400.  
No. 2 Gardner disc grinder. 250.  
No. 60 Heald cylinder, rebuilt,  
(7) each 900.  
No. 14 Cincinnati tool & cutter 375.  
No. 34 Van Norman internal. 300.  
No. 1 Landis internal, (4) ea. 600.  
No. 70 Heald internal, (2) ea. 700.

### FOR SALE BY

**McMullen Machinery Company,**

**Grand Rapids, Mich.**

Automatic, 3" Cleveland.  
Automatics, No. 00 B. & S.  
Band saw, 10" Napier, metal.  
Cut-off saw, No. 4 N. & B.  
Drill, 31" Barnes, sliding head.  
Drill, No. 1 Avey 2-sp., p. f.  
Grinder, Cleveland, profile.  
Grinder, No. 6-A Bryant.  
Lathe, 9"x21 1/2" Sundstrand, mfg.  
Lathe, 2 1/2"x26 Greenlee, flat turret.

Miller, No. 2-H Becker vertical.  
Pipe mch., 6" Merrill No. 64.  
Press, Chicago scrap baler.  
Press, No. 3 Manville, d. a.  
Presses, No. 6 Manville, pillar, (3).  
Presses, No. 6B Manville, pillar, (2).  
Shear, No. 14 Pettengell, rotary.  
Shear, No. 152 Niagara, sq.  
Shear, No. 2 W. F. Co. 36" gang.  
Welders, No. 10-A Thomson vert. (7)

Ask for Complete List.

### FOR SALE BY

**McCoy-Brandt Machinery Co.,**

**210-14 Penn Ave., Pittsburgh, Pa.**

Air compressor, 8"x8" and 10"x10",  
with motors 3 60-220 volts.  
Air compressor, 212 cu. ft. Chicago,  
portable, oil driven.  
Air compressors, 116 & 442 cu. ft.  
Boring mill, 48" Colburn, 2 heads.  
Boring mill, 10" Niles, 2 heads.  
Bulldozers, Nos. 2, 4, 6 and 30.  
Drills, radial, 5' Prentice, s. p. d.  
Drill, radial, 6' Prentice, belt drive.  
Forging machines, 2" and 3".  
Grinders, 12"x48" Cincinnati plain.  
Grinder, 10"x72" Norton pl., m. d.  
Grinder, Gisholt universal tool.  
Grinder, 36" Diamond wet tool.  
Grinder, 10x32" Ott universal.  
Grinder, No. 4 Gardner double disc.  
Lathe, 14"x6" Hendey, grd. hd., m. d.  
Lathe, 17"x12" LeBlond, g. h., t. a.  
Lathe, 19"x14" LeBlond, grd. hd.  
Lathe, 24"x26" American, q. c. g., m. d.  
Lathe, 27"x18" L. & S., m. d., t. a.  
Lathe, 30"x18" L. & S., m. d., t. a.  
Lathe, 36"x20" Sidney, q. c. g., cone.  
Lathe, 42"x32" Amer., grd. hd., m. d.  
Millers, horiz., Nos. 3 & 5 Cincinnati.

Miller, vertical, No. 0 Bickett.  
Millers, vertical, No. 3 Brown &  
Sharpe, motor drive.  
Millers, Nos. 2, 54 & 6 Becker vert.  
Nut tappers, 10 spindle, rotary, cap.  
1 1/2" nuts.  
Pipe machines, 12", 10", 8", 4" & 2".  
Planer, 30"x30"x8" N. B. P., 1 head.  
Planer, 36x36x12" Powell, 3 heads,  
like new.  
Planer, 30"x30"x8" Flather, 1 head.  
Planer, 48"x48"x16" Gray, 4 hds., m. d.  
Press, No. 68 Bliss, double acting.  
Punch, 48" thrt., 1" thru 1", arch. jaw.  
Punch, 36" Cleveland 1 1/2"x1", m. d.,  
arch. jaw.  
Punch, 24" Cleveland 1"x1", m. d.,  
arch. jaw.  
Punch, dbl. end, 20" throats, 1 1/2"x1".  
Punch, 24" throat H. & J., 1"x1".  
Rolls, bending, 16"x3/4" Wickes, m. d.  
Shears, guil., cap. 2 1/2" and 2" and 1".  
Shear, rotary bevel, cap. 1/2", m. d.  
Shear, rotary, cap. 1/2", with circ. att.  
Turret lathe, 16" Libby, like new.

**WHEN YOU INQUIRE** of advertisers won't you kindly tell them where you saw it? Just say "Hitchcock's List;" that will be sufficient. They like to know what produces their inquiries, and the publisher is very anxious to have them know it.

# America's Greatest Values

## PIPE MACHINES

2" Curtis.  
6" Bignall & Keeler.  
12" Bignall & Keeler.

## PRESSES

No. 74½ Bliss s. s. 6" stroke.  
No. 75½ Bliss s. s. 6" stroke.  
No. 58 Toledo s. s. 6" stroke.  
No. D 201 Ferracut s. s. 16" str.  
No. 256 Toledo s. s. double crank.  
No. 6N American, o. b i, 3" str.  
No. 5 Bliss Stiles type, 2½" str.

## STRUCTURAL MACHINERY

No. 1 Cleve. I-Beam Straightener.  
6x6x1" Double Angle Shear.  
15" Pels I-Beam Shear.  
10" thr. Cleve. Horz. Punch 1" cap.  
20" thr. Cleve. s. e. Punch 1" cap.  
24" Whiting s. e. Punch 1" cap.  
36" Cleveland s. e. Punch 1" cap.  
42" Whiting s. e. Punch 1" cap.  
48" Cleveland s. e. Punch 1" cap.  
Stand. Eng. Beam Cooper & Notcher  
Long & A. hvy. duty Punch, Style D.  
No. EG6 Ferracut s. s., 3" str.

## PLANERS

16"-16"x45' Modern, 1 head.  
22"x22"x 5' Gray, 1 head.  
24"x24"x 6' Gray, 1 head.  
36"x32"x10' Pond, 1 head.  
48"x48"x14' Patch, 4 heads M. D.  
48"x48"x14' W. & P., 4 hds. M. D.  
48"x28"x18' New Haven, 2 heads.

## SHEARS

14" G. & Mc. Rod Shear.  
14" Carlin Alligator Shear.  
24" Chicago Alligator Shear.  
4" Carlin Alligator Shear.  
5" Carlin Alligator Shear.  
64" United Alligator Shear.  
20" Mesta Bloom Shear.

## GRINDERS

18"x2' U. S. Floor Grinder, m. d.  
No. 2 Diamond Wet Tool Grinder.  
12"x36" Fitchburg Plain.  
16"x36" Landis Universal.  
16"x66" Landis Universal.  
16"x68" Landis Crankshaft.  
26"x96" Landis Plain, with crankshaft attachment.

## ENGINE LATHES

12"x 5' Vernon, q. c. g., t. a.  
16"x 6' Putnam, taper attach.  
16"x 8' Bradford, q. c. g.  
19"x10' LeBlond.  
20"x10' Bradford.  
21"x12' LeBlond, q. c. g.  
24"x12' American, q. c. g.  
30"x16' LeBlond, q. c. g.  
36"x30' American, q. c. g., grd. hd.  
36"x32' Bridgeford, q. c. g., "  
42"x22' American, " "  
42"x23' Putnam, " "  
42"x30' American, " "  
42"x31' Putnam, " "  
48"x24' Bridgeford, " "  
60"x40' Fifeild, triple grd.

## BORING LATHES

36"x40' Bridgeford Geared Head.  
36"x56' Bridgeford Geared Head.  
39"x48' Amalgamated Grd. Head.  
39"x64' Amalgamated Grd. Head.  
48"x44' Bridgeford Geared Head.  
48"x50' Amalgamated Grd. Head.

## HAMMERS (Steam)

300-600-800-1000-1200-2000-2500-4000  
and 6000 single & double frame.

## HAMMERS (Board)

400-600-800-1000-2000-2500 and 3000  
Bliss and Chambersburg.

## BOLT CUTTERS

No. 3 Geometric, cap. 4".  
14" National double head.

## RIVETERS

Allen 32" thr., 16" gap.  
Allen 34" thr., 14" gap.  
Allen 66" thr., 124" gap.

## MISCELLANEOUS

6' Niles Plate Bend Roll, ½" cap.  
1½" Ajax Forging Machine.  
6' Lennox Rotary Shear.  
6' class A Lovekin Flanging Mch.  
6' N. B. P. Radial, t. a.  
8-spd. Bausch Multi Drill, 1" cap.  
90" Newton Cold Cutting-off Saw.  
62" Newton Cold Cutting-off Saw.  
36" Newton Cold Cutting-off Saw.  
20" Newton Cold Cutting-off Saw.  
No. 4B W. & W. Bulldozer.  
72" Colburn Vertical Boring Mill.  
30" Bullard Boring Mill.  
10", 16" to 20" Slotters.

**NOTE:** For boiler, compressors, generator, steam engines, motors, etc., see our stock. Complete list on request.

## Harris Brothers Company

35th and Iron Sts.  
CHICAGO

17 State Street  
NEW YORK

# FOR SALE LATHES

24"x14' 3-Step Cone,  
Double Back Gear  
Boye & Emmes Lathe

**\$1615.00**

22"x14' Greaves &  
Klusman Standard  
Lathe with taper at-  
tachment and two  
steady rests

**\$700.00**

*NET f. o. b. Cincinnati*

THE  
**Boye & Emmes Machine Tool Co.**  
**2245 Spring Grove Ave.**  
**CINCINNATI, OHIO**

# Rebuilt Machine Tools

## REAL VALUES

### MILLING MACHINES

No. 2 Garvin univ., cone pulley.  
No. 3A Garvin univ., cone pulley.  
No. 3 hi-power Cin'ti pl., sgl. pulley.  
No. 3 B. & S. plain, single pulley.  
No. 2-B B. & S. plain, sgl. pulley.  
No. 2 Cincinnati plain, cone pulley.

No. 2 LeBlond plain, cone pulley.  
No. 4 LeBlond heavy duty universal, cone pulley, complete.  
No. 6 Whitney hand miller.  
No. 2 hi-power Cin'ti vert., sgl. pul.  
No. 5-C Becker vertical, belt drive.

### LATHES

36"x22" Putnam, tri. g., semi q. c. g.  
30"x12" LeBlond heavy duty, q. c. g.  
30"x17" H. S. & G. hvy. duty, q. c. g.  
28"x36"x14" Putnam q. c. sliding bed gap lathe  
25"x12" LeBlond heavy duty, q. c. g.  
24"x14" LeBlond, standard ch. gear.  
22"x10" Hamilton, semi q. c. g.  
21"x8" LeBlond heavy duty, q. c. g.  
20"x10" Bradford, standard ch. gear.

20"x8" Hendey, q. c. g., sgl. pulley.  
18"x8" Prentice, q. c. g., all-grd. hd.  
18"x8" Lodge & Shipley, q. c. g.  
16"x8" Hendey tool room, taper attachment, quick change gear.  
14"x8" Hamilton tool room, taper, relieving and draw-in attachments.  
14"x8" LeBlond, q. c. g.  
14"x8" American Tool Works., q. c.  
12"x8" Davis, quick change.

### TURRET LATHES

34"x36" Cin'ti Acme Flat, grd. hd.  
3"x36" J. & L. Flat, geared head.  
24" Gisholt, cone pul., 3/4" hole in sp.

No. 4 W. & S. turret screw mch., p.f.  
Nos. 1 & 2 S. P. Garvin turret screw machines, new.

### UPRIGHT and RADIAL DRILLS

28" Rockford upright drill press.  
24" Cinti Bickford, gr. box, tapp'g att.  
24" Kokomo, tapping attachment.  
23" Rockford, tapping attachment.  
No. 11 Natco multiple, arr. mtr. dr.  
Avey hi-speed ball bearing sensitive.

Sipp hi-speed ball bearing sensitive  
2-spdl. Leland-Gifford hi-speed ball bearing sensitive, power fed.  
20" W. F. & J. Barnes, tapping att.  
34" Fosdick plain radial.  
4" Niles universal radial.

### GRINDERS

No. 60 Heald cylinder, complete equipment.  
No. 6 Rivett internal chucking.

8"x18" Landis plain cylindrical.  
No. 2 Ohio Oesterlein univ. tool & c.  
No. 14 Cincinnati univ. tool & cutter.

### MISCELLANEOUS

Bolt threader, 1" Landis, with lead screw attachment.  
Bolt threader, 1 1/2" Landis.  
Boring mill, No. 21 Lucas horizontal, gear box drive, 2 1/2" spindle.  
Gear hobber, Barber-C, cap to 12".  
Gear cutter, No. 12 Brown & Sharpe auto spur & bevel.  
Gear cutter, 36" No. 4 B. & S. aut. spur.  
Gear cutter 24" G. & F. automatic.  
Hand brake, 8" J. M. Robinson, cast iron, cap. to 16 gauge.  
Keyseater, No. 2 Davis, cap. to 3/4".

Keyseater, No. 00 Baker, cap. to 1/2".  
Pipe machine, 4" Jarecki, power, belt drive, with dies.  
Planer, 28"x28"x8" Gray, 2 heads, belt drive.  
Planer, 30"x30"x8" Gray 1 head on cross rail.  
Press, No. 34 Toledo, o. b. i., power.  
Press, No. 4 Toledo, o. b. i.  
Shaper, 16" Hamilton heavy duty b. g. crank.  
Shaper, 20" Milwaukee, b. g. crank.  
Shaper, 20" Amer. hi-duty b. g. cr.

And many others. Send for complete list of bargains

## EASTERN MACHINERY CO.

No. 408 East Pearl St.,

Cincinnati, Ohio

## NEW 3 PHASE MOTORS CHEAP. 3 H. P. \$57.50; 5 H. P. \$67.50

### LATHES

9" to 12" Barnes, h. s., cp. r., new.  
12"x 8" Cleveland, geared head.  
14"x 8" Young.  
14"x 6" Hamilton, grd. hd., motor dr.  
14"x 6" Monarch, quick change.  
14"x 8" Sidney, double back geared.  
16"x 8" Sidney, double back geared.  
18"x10" American, quick change.

### TURRET LATHES and

No. 4 Defiance hand screw machine.  
No. 4 Wood's Tilted Turret.  
1" and 1 1/2" Mulholland.  
2x24 and 3x36 J. & L.

14" Niles, traveling head.  
14" Steptoe, crank.  
16" American, tool room.

22"x22"x 5' Cincinnati.  
24"x24"x 6' Gray.  
32"x32"x 6' Gray, 2 heads.

Nos. 3-A & 6-A Willard inclinable.  
No. 1 Toledo inclinable.  
Nos. 1 1/2, 2, 2 1/2 & 4 Robinson.

### DRILLS and RADIALS

3 1/2" Silver, sgl. pulley, gear box dr.  
3" & 4 1/2" Morris plain gear box.  
4" Universal Radial Drill Co. plain.  
Electric drills, Black & Decker.

### MILLING MACHINES

No. 2 Kempsmith universal.  
U. S. and Whitney hand.  
No. 25 Becker plain, power feed.  
No. 3 Kempsmith univ. and plain.  
Nos. 2-A & 4-B Becker vertical.

### GRINDERS

Nos. 1, 3 & 78 W. & M. surface.  
No. 2 W. & P. 10x30 universal.  
6"x15" Fitchburg plain.  
12x36 Cincinnati universal.  
12x42" & 16"x30" Landis plain.  
12"x72" Brown & Sharpe plain.  
36" and 66" Yates plate.

### MISCELLANEOUS

Band saw, metal, Klemm.  
Band saws, Napier 4"x4", 10"x10".  
Bending rolls, 7' for 1/2" plate.  
Boring mill, Colburn No. 3, tur. hd.  
Boring mill, 54" & 60" Colburn, 2 hds.  
Brake, 10', 18-gauge metal.  
Broaching machine, No. 3 LaPointe.  
Cold saw, Burr, 3" capacity.  
Compressors, 5x4, 8x8 and 12x10.  
Drawing tables, adjust., 42"x6" top.  
Gear cutter, 26" No. 3 B. & S.  
Gear millers, Bilton No. 1. (5).  
Hammer, 40 lb. Bradley, helve.  
Hammer, 150 lb. Standard drop.

18"x 8' Bradford, h. s., steady rest.  
20"x10' Prentice, taper.  
20"x10' Hamilton, rapid production.  
24"x24' Prentice, with raising block.  
25"x12' Sidney heavy duty.  
28"x 8' Bridgeford, heavy duty.  
Ames precision bench, 1" & 1 1/2" cap.  
8x60" & 10x72" Fitchburg Lo-Swing.  
No. 3-B Foster, 3" capacity, new.  
1" P. & W. automatic, sgl. spindle.  
Nos. 56 & 56 National Acme auto  
6" Gridley single spindle, automatic.

### SHAPERS

16" & 24" Barker, b. g. crank.  
16" O. & S. b. g. crank, new.

### PLANERS

36"x36"x18' Pond.  
60x60x17' Betts, 2 heads.

### PRESSES

Emco, bench, for radio parts.  
No. 35 Niagara straight side.  
Perkins, dbl. housing, wt. 4,000 lbs.

22", 24", 26", 28" and 32", sliding hd.  
20"-24" & 26" Barnes, all geared.  
4-spindle Reed sensitive.  
Electric drills, Thor, all sizes.

No. 3 LeBlond, with vertical attach.  
No. 2 H Brown & Sharpe plain.  
Briggs type "A" high duty, 24x8 table.  
No. 7 Becker Lincoln type.  
Oesterlein 24x7x18 plain.

Perfection cylinder.  
No. 60 Heald cylinder.  
Schmitt cylinder grinder.  
Nos. 2 & 3 Ohio universal & tool.  
No. 4 Gardner 20" double disc.  
No. 20 Bryant, chucking.  
Capital internal, new, 2"x2".

Oil separator, Springfield.  
Pipe machines, 2", 4", 6" & 12".  
Pumps, Gould triplex, 6x8" & 7x8".  
Punch & shear 1/2" by 1/2", 10" throat.  
Riveting hammers, No. 3-A h sp. (2).  
Scale, 1500 lb. Toledo, dial type.  
Scleroscope, Shore.  
Shear, 5' Robinson, for 10 gauge.  
Shear, No. 20 Quickwork, 30" throat.  
Shear, circular, Pettingell 60".  
Slotter, 18" Bement-Miles.  
Tapping mche., 1" Rickert-Shafer.  
Tapping machine, Acme 6-spindle.  
Threading mche., W. & P. 2-spindle.

**THE OSBORNE & SEXTON**  
**MACHINERY COMPANY**  
COLUMBUS DEPT. H. OHIO

# Quitting Business

**Everything for Sale — No Reservations**

Air Compressor, belted, Chicago 9"x11", belt drive.  
Air Compressor, steam driven Imperial 10, 2-stage Duplex 888 cu. ft., steam ends 12"x16"; air 19"x16" & 12"x16"; 90%.  
Air Compressor, steam, Ingersoll-Rand, 1000 cu. ft. single stage.  
Bending Rolls, Niles Pyramid Type, capacity 1" plate 12' wide.  
Bending Rolls, No. 7 Bertsch, angle, power driven.  
Bolt Cutter, Landis, single spindle, 1" capacity, with dies.  
Bolt Cutter, Acme 2-spindle, 1" capacity, complete with dies.  
Bolt Cutter, Landis 2-spindle, 1" capacity, with dies.  
Boring Mills, Baush 60", 2-heads, screw cutting, cone driven.  
Boring Mills, Bullard 36", New Era Vertical Turret Lathe, 85%.  
Bull Riveter, 100"—62 ton, 1" capacity, Pedrick & Ayer.  
Butt Welder, Federal 65 KW, 3-phase 60-cycle 440-volts.  
Butt Welder, Winfield 20 KVA, 3-phase 60-cycle 440-volts.  
Cutting-Off Machine, Hurlbut-Rogers, 4" capacity, 95%.  
Cranes, Toledo 30" span; 2-5 ton and 1-7½ ton, 3-ph. 60-cyc. 440-volt.  
Gear Cutter, Gould & Eberhardt 36", single vertical cutter.  
Grinder, Diamond Heavy Face Grinder, 84", arranged motor drive.  
Grinder, No. 60 Heald Cylinder Grinder.  
Grinder, Norton plain 14"x72", standard equipment.  
Grinder, Norton plain 10"x52", standard equipment.  
Grinder, Norton 22"x34"x120", crankshaft.  
Grinder, Bath universal No. 29.  
Hydraulic Press, Metalwood No. 20 Forcing.  
Hydraulic Press, Defiance Rim No. 4, 60-ton.  
Lathe, 24"x12" Whitcomb-Blaisdell, compound rest.  
Lathe, 24"x10" Boye & Emmes, compound rest.  
Lathe, 20"x10" Hendey, compound rest.  
Lathes, 24"x12" American, 3-step cone, d. b. g., with chucks, 90%.  
Lathe, 36"x18" Lodge & Shipley Patent Head, compound rest.  
Lathe, 36"x18" Lodge & Shipley Heavy Duty Geared Head, motor drive.  
Lathe, 36"x20" New Haven, compound rest, 5-step cone, cheap.  
Lathe, Low-Swing 4"x108", two carriages, 90%.  
Lathe, 28" swing Gisholt Turret.  
Lathes, J. & L. 2"x24" and 3"x36".  
Lathe, 18"x10" Boye & Emmes, 3-step cone, d. b. g., 90%.  
Milling Machine, No. 3 Universal Cincinnati.  
Pit Lathe, 84" swing, very cheap.  
Radial Drill, 5' Prentice, with taper.  
Radial Drill, 4' American, gear box drive, with tapping attachment.  
Radial Drill, 4' Fosdick & Holloway, cone drive, tapping attachment.  
Radial Drill, 5' Hammond, gear box drive, tapping attachment.  
Shaper, 24" Queen City, very good condition.  
Upsetter, Acme 1½", steel bed, will sell cheap.

**Have a lot of Woodworking Machinery and Foundry Equipment; Electric Motors 5 to 50 h. p., 3-phase, 60-cycle, 220 or 440 volt; also large stock High Speed Twist Drills, Taps, Reamers, etc., new and used.**

*If what you want is not listed, write us, as we probably have it*

**Aultman & Taylor Machinery Co.**

**Manufacturers of Farm Implements**

**MANSFIELD, OHIO**

**Phone—Canal 1261**

# "Factory" Rebuilt Tools

## Every Machine Rebuilt in a Machine Tool Factory

The following tools are exceptional bargains. The majority of them have been used exclusively in our own plant, where they have received the very best of care and attention, and all of them have been completely overhauled and rebuilt in our own shop, consequently they cannot be classed with the average second-hand machine. They are factory rebuilt tools of the very highest quality, with many real bargains.

### LATHES

- 1-16"x 8' American, quick change gear, single back geared head.
- 1-16"x 8' Hamilton, loose change gear, single back geared head.
- 1-18"x 8' American High Duty, quick change gear, with patented grd. head.
- 1-18"x10' American High Duty, quick change gear, with patented grd. head.
- 1-18"x10' American quick change gear lathe, single back geared head.
- 1-18"x14' American turning lathe, without screw cutting mechanism.
- 1-20"x10' American High Duty, quick change gear, with patented grd. head.
- 1-20"x12' American, quick change gear, with single back geared head.
- 1-24"x12' Greaves-Klusman Heavy Pattern, qck chg. gr., dbl. bk. grd. hd.
- 1-30"x10' American High Duty qck chg. gr. with double back geared head.

### DRILLS

- 1-3' American Ball Bearing Sen. Radial, with elev. table and tapping att.
- 1-3' Reed-Prentice Plain Radial, with tapping att. and gear box drive.
- 1-3' Mueller Plain Radial, with tapping attachment and gear box drive.
- 1-4' Fosdick plain radial drill with tapping attachment, cone pulley drive.
- 1-5' American Plain Radial, with tapping attachment and gear box drive.
- 1-5' Fosdick Plain Radial, with tapping attachment and cone pulley drive.
- 2-5' Bickford Plain Radial, with tapping attachment and gear box drive.
- 1-5½' Pond plain radial drill with cone pulley drive.
- 1-6' Bickford Plain Radial, with tapping attachment and gear box drive.
- 1-6' Fosdick Plain Radial, with tapping attachment and gear box drive.
- 1-6' American full Universal Radial, gear box drive.
- 1-8 spindle Niles-Bement-Pond Boiler Plate Drill.
- 1-No. 2 Baush Multiple Spindle (8) High Speed Drill.

### MILLING MACHINES

- 1-No. 2½ LeBlond Plain Milling Machine, 3-step cone, friction back gears.
- 2-No. 3 LeBlond Plain, with 3-step cone, friction back gears.
- 1-No. 3 Cincinnati Vertical Milling Machine with single pulley drive.

### PLANERS

- 1-36"x36"x14' American Pl. with 2 hds. on cross rail and 2 sp. countershaft.
- 1-42"x36"x26' American, with 2 hds. on cross rail, 2 side hds., 2-speed c. s.
- 1-48"x36"x18' American, with 2 hds. on cross rail, 2 side heads, 2-speed c. s.
- 1-48"x48"x26' American Heavy Pattern Planer with two heads on cross rail, two side heads, and two speed countershaft.
- 1-72"x60"x31' Pond Planer with two heads on cross rail and countershaft.

### SHAPER

- 1-16" American Back Geared Crank with table support, cone pulley drive.

### FLAT TURRET LATHES

- 1-No. 2 (2"x17") Warner & Swasey Flat Tur. Lathe, 3-step cone, friction hd.
- 1-2"x24" Jones & Lamson Flat Turret Lathe, with 3-step cone, friction hd.
- 1-2½"x26" Acme Flat Turret Lathe, 3-step cone, friction head.

### GEAR CUTTERS

- 2-No. 3 (26"x8") Brown & Sharpe Automatic Gear Cutters.

*Also a number of good "buys" in miscellaneous tools*

Many of the above tools have been used very little, and are practically the equivalent of new machines. There are many unusual and exceptional bargains that somebody is going to get the benefit of. Write us immediately for descriptions, illustrations and prices, before these bargains are gone.

## The American Tool Works Co.

Cincinnati, U. S. A.

Builders of LATHES — SHAPERS — RADIAL DRILLS

# Factory Rebuilt Machines

## Guaranteed

### CINCINNATI ACME TURRET MACHINERY

- 2— $\frac{5}{8}$ "x4" plain head screw machines.
- 3—1"x7" plain head screw machines without power feed to turret.
- 4—1"x7" plain head screw machines with power feed to turret.
- 2—1 $\frac{1}{2}$ "x9" friction back geared screw machines with power feed to turret.
- 1—2 $\frac{1}{4}$ "x26" flat turret lathe (cone head type) with bar equipment.
- 2—2 $\frac{1}{4}$ "x26" flat turret lathes (cone head type) with plain equipment.

NOTE: Screw machine equipment includes automatic chuck, one collet, stock feed, pan, pump and piping and countershaft.

**The Acme Machine Tool Co.**  
Cincinnati, Ohio

## POWER PRESSES

### Inclinable

- No. 6 Niagara, 3" stroke, weight 4200 lbs.
- No. 4 Toledo, 2 $\frac{1}{2}$ " stroke, weight 3000 lbs.
- No. 19 Bliss, 2" stroke, weight 1300 lbs.
- No. 20 Bliss, 2 $\frac{1}{2}$ " stroke, weight 2250 lbs.

### Straight Side

- No. 24 Bliss, NEW, Embossing, 400 Ton Cap.
- No. EG-51 Ferracute Embossing, 75 Ton Cap.
- No. 75 $\frac{1}{2}$  Bliss, 3" stroke, weight 13,500 lbs.
- No. 74 $\frac{1}{2}$  Bliss, geared, 2 $\frac{1}{2}$ " stroke, weight 10000 lbs.
- No. 62 V. & O., geared, 6" stroke, weight 6600 lbs.
- No. 6 Rockford, geared, 7" stroke, weight 6500 lbs.
- No. 8-7 Z. & H., geared, 3" stroke, weight 6000 lbs.

*140 Other Presses—Low Prices*

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# Good Used Tools

## BORING MILLS

12' BETTS Vertical, cone drive, geared feeds .....	92% new
10-16 NILES Vertical, A. C. motor dr., extension rail & head .....	90% "
110" BETTS Vertical, cone drive .....	90% "
84" BULLARD Vertical, motor drive, Q. C. feed .....	90% "
60" CINCINNATI Vertical Rapid Production, motor drive .....	92% "
54" BULLARD Vertical Maxi. Mill, motor drive .....	90% "
34" KING Vertical, 5-hole turret, belt drive .....	90% "
24" BULLARD New Era, side head .....	90% "
DETRICK & HARVEY Horizontal, 7" bar, heavy duty .....	95% "
No. 32 LUCAS Horizontal, 3½" S. P. drive .....	90% "
ROCKFORD Horizontal, 3" bar, cone drive .....	85% "

## LATHES

84"x40' PUTNAM, geared head, heavy duty .....	90% new
76"x35' POND Type B. G., variable speed motor drive .....	85% "
48"x28' POND Type B. G., variable speed motor drive .....	88% "
42"x36' BRIDGEFORD, geared head, motor dr., 2 carriages .....	92% "
36"x36' BRIDGEFORD, geared head, motor dr., 2 carriages .....	92% "
36"x18' LODGE & SHIPLEY, S. P. drive, 18 speeds .....	90% "
24", 20", 18" and 16" Lathes—all makes.	

## HYDRAULIC EQUIPMENT

1000 ton H. S. UNITED Steam Hyd. Forging Press .....	90% new
800 ton R. D. WOOD Flanging Press .....	92% "
700 ton MESTA 4-column Hyd. Press .....	90% "
500 ton BETHLEHEM 4-column Press .....	95% "
365 ton R. D. WOOD Jogging Press .....	92% "
250 ton SOUTHWARK Tire Forcing Press .....	100% "
150 ton UNITED H. S. Forging Press .....	93% "
All Sizes Accumulators and Pumps.	

**We are able to quote on more hydraulic equipment than any other used machinery dealer in the Country.**

## MISCELLANEOUS

12"x96" LANDIS Plain Grinder, belt drive .....	95% new
No. 25-24" FOOTE-BURT Upright Drill, S. P., 3" cap .....	99% "
No. 4 QUINTS 6-spindle Turret Drill, 2" cap .....	100% "
No. 4 CINCINNATI Vertical Miller, motor drive .....	98% "
36"x36"x12" BICKETT Planer, 1 head, belted motor drive .....	95% "
120"x120"x25' BEMENT Planer, 4 heads, rev. motor drive .....	90% "

*Numerous other good tools shown in our illustrated catalogue No. 220. Send for it.*

**EASTERN  
& EQUIPMENT**



**MACHINERY  
COMPANY.**

COMMERCIAL TRUST

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## A List Worthy of Your Consideration

These tools represent 90 to 95% of new condition at prices approximately one-half of new.

1—No. 15 Lea-Simplex Cold Saw, 4 1/2" capacity .....	\$ 375.
1—14"x36" Norton Plain Cylindrical Grinder, fully equipped...	2900.
1—No. 65 Heald Cylindrical Grinder, completely equipped, serial No. 367 .....	1350.
1—No. 2-B Brown & Sharpe Plain Milling Machine, with single pulley drive, completely equipped .....	850.
1—No. 4-B Booker Vertical Milling Machine with circular table, fully equipped .....	850.
1—24"x24"x6" Putnam Planer, heavy duty type, single head...	850.
1—No. 2 Kempsmith Universal Milling Machine, late type, cone driven, complete equipped with new dividing head .....	1050.
2—No. 6 Fellows Gear Shapers, completely equipped, Serial Nos. 5691 and 6315, each .....	850.
1—13"x6" South Bend Lathe, plain change, silent chain motor drive, with suitable motor, completely equipped, with chuck .....	375.
1—14"x6" Bradford Double Back Geared Lathe, latest type, quick change feeds .....	400.
1—3"x36" Jones & Lamson Turret Lathe, serial number 16332, bar equipment .....	1350.
1—24" Bullard "Rapid Production" Vertical Turret Lathe, (85% condition) .....	1250.

**FRANK TOOMEY, Inc., (Since 1876)**  
129 No. 3rd Street, Philadelphia, Pa.

## REAL BARGAINS — Write or Wire Us for Details

Boring Mill, 3A universal horiz.  
Drill Presses, hi. spd. 1, 3 & 4 sp.  
Gear Cutter, 36" B. & S. Auto.  
Gear Shaper, No. 6 Fellows.  
Grinder Plain, 7 1/2 x 72" B. & S.  
Grinder Plain, 12 x 36" Cincinnati.  
Grinder Plain, 10 x 48" B. & S.  
Grinder Plain, 6 x 15" Ott.  
Gr. Chucking, No. 18 Bryant inter.  
Grinder Internal, No. 75 Heald.  
Radial Drill, 3' American sensitive.  
Lathe, 13 x 6' Willard, d. b. g.  
Lathe, 15 x 6' Champion, d. b. g.  
Lathe, 16 x 8' Greaves-K., s. b. g.  
Lathe, 17 x 6' Champion, d. b. g.  
Lathe, 18 x 8' LeBlond, s. b. g.  
Lathe, 18 x 8' Lodge & S., grd. hd.  
Lathe, 20 x 10' LeBlond, d. b. g.  
Lathe, 20 x 10' Greaves-K., d. b. g.  
Lathe, 24 x 12' S. & B., d. b. g.  
Lathe, 24 x 16' LeBlond extra hvy.  
Lathe, 30 x 12' Greaves-K., d. b. g.  
Lathe Turret, 20" Acme pwr. fd.  
Lathe Flat Turret, 2 1/2 x 26" Acme.  
Lathe Flat Turret, 3 1/2 x 36" Acme.

Relieving Machine, 9 x 7" P. & W.  
Miller Hand, U. S., Garvin, Fox.  
Miller Plain, No. 1 Cincinnati back geared.  
Miller Plain, No. 1 1/2 Cincinnati bk. grd.  
Miller Plain, No. 2 Kempsmith, b. g.  
Miller Plain, No. 24 Oesterlein, b. g.  
Miller Plain, No. 0 Steptoe bk. grd.  
Planer, 22 x 22 x 6' one head.  
Planer, 30 x 30 x 10' Cincinnati, 2 heads  
Planer, 36 x 36 x 18' Cincinnati, 4 hds.  
Planer, 36 x 36 x 10' Gray, 2 hds.  
Planer, 36 x 36 x 10' Am., 2 hds.  
Planer, 42 x 36 x 16' Cincinnati, 4 hds.  
Screw Mche. Hand, 1" Stenotype.  
Screw Mche. Hand, 3" P. & W.  
Screw Mche. Auto., 3" Cleveland.  
Screw Mche. Auto., 3" Cincinnati 5 sp.  
Screw Mche. Auto., 1" Cleveland.  
Screw Mche. Auto., 2 1/2" Cleveland.  
Screw Mche. Auto., 3" Gridley.  
Screw Mches. Auto. Nos. 52, 55, 56, 4 spindle National Acme's.  
Screw Slotter, Brown & Sharpe.  
Tapper, Webster & Perks 5 spindle.

**CINCINNATI AUTOMATIC MACHINE CO., Cincinnati, Ohio**

# FOR SALE BY

## D. M. Osborne Machinery Co.

P. O. Box 853, Station "H"

CLEVELAND, OHIO

Upsetter, 1½" Acme, steel bed.  
Bolt Cutters, 1½" Landis, 1" Acme.  
Cutting-Off Machine, Hurlbut-Rogers, 4" and 5" capacity.  
48x48x14 Woodward Powell Planer.  
48x48x14 Cincinnati Planer.  
Boring Mills, King 42" and 52", motor driven.  
Boring Mills, 54" Bullard, motor driven.  
Boring Mill, 60" Baush, A-1 condition.  
Grinders, Landis 16x48 and 16x68, Crankshaft, like new.  
Openside Planer, 36x36x10' Detrick & Harvey.  
Band Saw, 36" Oliver, like new.  
Shaper and Milling Machine, Morton, cap. 70" horizontal travel, 48" vertical travel, 60" spindle travel.  
No. 33 New Britain Automatic 5-spindle, serial 6729.  
Grinders, No. 60 Heald Internal.  
Grinder, No. 14 Brown & Sharpe Plain.  
Grinder, No. 2 Bath Universal.  
Grinder, No. 103 Rivett Internal.  
Misc Valve Grinders  
Hand Millers, No. 6 Whitney and No. 1 Kent-Owens.  
42"x20"x20' Fixed Rail Ingersoll Slab Miller.  
Cleveland Automatic Screw Machine 2", Class B, latest type, H. S.  
Drilling Attachment, serial 29694, 95%.  
5A Potter & Johnston Automatic, serial 20679, 90%.  
9"x20" Porter-Cable Lathes.  
21" Gisholt Turret Lathes.  
24"x8' Bridgeford Chucking Lathe, with hex. turret.  
20"x8' Whitcomb-Blaisdell Lathe, q. c. g., compound rest.  
16"x6' Fulton Lathe, compound rest.  
15"x6' Sidney Engine Lathe, p. f. turret on shears.  
Broaching Machine, No. 2 J. N. LaPointe, single broach.  
Kempamith No. 3 Plain Millers.  
Drills, 24" Hoefler, sliding head, b. g., p. f., square tables.  
Drills, 16" Henry & Wright class K, double spindle b. b. drills.  
Moline No. 17D 4-spindle Hole Hog Drill, 20" swing.  
4' Hammond B. B. Radial Drills, with tappers.  
Baker No. 315 High Duty Drilling Machine.  
Garvin No. 2X Automatic Tapper.  
International No. 2 Vertical Tapper.  
W. & S. No. 1 Screw Machine, a. c., belt feed, p. f. turret.  
Milholland 1" Screw Machines, a. c., belt feed, h. f. turret.  
Garvin 2" Screw Machine, a. c., belt feed, p. f. turret.  
Shaper, 24" Columbia, good condition.  
Hydraulic Press, No. 20 Metalwood Forcing.  
Hydraulic Press, No. 4 Defiance 60-ton Rim Press.  
Hydraulic Press, 50 Ton Metalwood Straightening, hand operated.

Electric Japan Oven 12'x20'x8'6", with conveyor  
70' centers; Hanna Yoke Riveter; Vises; Belting;  
and many other machines not mentioned.

## Special Offerings—

American 4' Radial Drill, motor driven.....	\$1150.
Morris 2½' Radial Drill, s. p. d.....	450.
Burke No. 22 Bench Drills, brand new.....	25.
Henry & Wright single spindle b. b. Drill.....	125.
Allen 2-spindle ball bearing Drill.....	250.
Demco 3-spindle ball bearing Drill.....	400.
Allen 4-spindle ball bearing Drill.....	475.
Hollingsworth 18" Shaper, brand new.....	750.
Gould & Eberhardt 14" Shaper.....	450.
Milwaukee 16"x6' Lathe.....	250.
Walcott 16"x8' Lathe, q. c. g.....	525.
Davis 14"x5' Lathe, q. c. g.....	450.
Cincinnati No. 3 Universal Miller, dividing head.....	1250.
Gray 24"x24"x8' Planer, single head.....	750.

**Louis E. Emerman & Company**

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## Are You Thinking—

Of installing a Radial Drill? If so, the following machines are REAL bargains:

- 1—2½' Standard type, heavy duty, MUELLER radial drill, gear drive.
- 1—3' Standard type, heavy duty, MUELLER radial drill, gear drive.
- 1—4' Standard type, heavy duty, MUELLER radial drill, gear drive.

**Prices will arouse interest**

*Write and Satisfy yourself*

**The Mueller Machine Tool Company**

Radial Drills and Lathes

ESTABLISHED 1902

CINCINNATI, O.

Warner & Swasey No. 4 Turret Lathe, 85%...	\$ 575.
Warner & Swasey No. 6 Turret Lathe, 85%...	675.
Cincinnati-Acme 3¼"x36" Turrets, 85%.....	575.
Libby 18" Turret Lathes, (4), 80-85% each...	925.
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Betts Horizontal 3" Bar Boring & Drilling.....	625.
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Pratt & Whitney 14" Vertical Surface Grinder...	650.
Garvin No. 2 Auto. Tapping Machine, 90%...	250.
Becker No. 6 Vertical Miller, 80%-85%.....	950.
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Bradley 200 lb. Rubber Cush. Helve Hammer	625.
Niagara No. 416-C Slitting Shear, 85%.....	575.
Sellers 15" Slotter, 75-80% .....	525.
20 Tumbling Barrels 20"x40", Per Set.....	340.
High Speed Hammers Nos. 2-A, 3-A, 4-A, 5-A.	
25"x12' LeBlond Lathes, heavy duty.	
25"x14' LeBlond Lathes, heavy duty.	
24"x12' Reed Lathe, loose change gears.	
62" Colburn Vertical Boring Mill, 2 heads.	
60" Niles Boring Mill, 2 heads.	
5' Bickford Radial Drill, gear box, tap. att.	

## 75 PRESSES and Hundreds of Other Machine Tools In Stock

*Send for our latest list just off the press*

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# New Tools at Bargain Prices

- 5— $\frac{3}{8}$ " Milwaukee Horizontal Tappers.
- 3—No. 5 $\frac{1}{2}$  Milwaukee o. b. i. Plain Presses.
- 6—20" Hoosier Drills, lever feed.
- 3—20" Hoosier Drills, bk. grd., pwr. fd.
- 4—8"x60" Fitchburg Lathes.
- 2—No. 2 Kempsmith Plain Millers.
- 1—D-12 Fox Multi-Drill, 8"x14" rect. head,  
1" capacity, 10 spindles.

**THE E. L. ESSLEY · MACHINERY · CO**

551 W. Washington Blvd., Chicago.

78-80 W. Water St., Milwaukee

## DO YOU NEED?

**All Tools Guaranteed and Tested**

- 1—16" Kelly Shaper - \$500.00
- 1—20" Silk Smith Shaper 275.00
- 1—20"x5' Reed Lathe - 275.00

(Subject Prior Sale)

**Planers, Hand Screw Machines, Horizontal  
Production Milling Machine, etc.—**

**All Kinds of Tools**

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**National Machinery Mfg. Co., Inc.**

3505 Page Ave., National Bldg., St. Louis, Mo.

# Over Three Hundred Items In Stock for Your Selection

## Some of the Larger Tools

- 60" Betts Vertical Boring Mill, 2 heads.
- 42" Bullard Vertical Mill, 2 heads, not late type, \$1000.
- 24"x24" Niles Lathe, loose change.
- 30"x11" Pond Lathe, triple geared, arranged for motor.
- 36"x16" Fifield, cone drive, 24" chuck.
- 40"x16" Niles-Bement-Pond, triple geared, quick change, with motor, nearly new.
- 46"x18" New Haven Lathe, triple geared, blocks to 62".
- 42"x20" Niles, triple geared.
- 48"x28" Niles, triple geared, face plate drive.
- 24" Gisholt Turret Lathe, fine shape, \$350.
- 28" Gisholt, fine condition, \$400.
- 54" Niles Horizontal Boring Mill, 4" bar.
- 6½" Niles Full Universal Radial, with motor.

## LATHES

- 13"x21"x8" New Willard Gap Lathe, costs new \$765., at a Big Saving.
- 14"x 8" Carroll-Jamieson, q. c.
- 16"x 6" Hendey, q. c., overarm  
brace.
- 16"x10" American, q. c.
- 16"x 6" Monarch, q. c., geared  
head.
- 20"x10" Hamilton, q. c.

## DRILLING MACHINES

- 20" Barnes 4-spindle automatic.
- 20" Hofer automatic.
- 24" Hofer, 2 spindle, nearly new.
- 32" Cincinnati-Bickford late type Radials, Single Pulley (3).
- 28" Aurora Sliding Head Upright, tapping attachment.
- 30" Cincinnati Upright, Tapping.

## SHAPERS and PLANERS

- 14" Rockford crank shaper.
- 16" Hamilton heavy duty crank.
- 20" Queen City crank shaper.
- 26"x26"x6" Gray planer, 1 head.
- 36"x36"x12" Woodward & Powell,  
1 head.

## MISCELLANEOUS

- PIPE MACHINES, Jarecki and Oster makes, 4" & 6".
- No. 6 Warner & Swasey Turret Lathe, power feed, \$350.
- 52" Bertach Gap Shears, 14 gauge.
- Six Cincinnati nearly new Internal Grinders, \$350 each.
- One each No. 2 & No. 3 Brown & Sharpe Cylindrical Grinders.
- One each No. 60 and No. 65 Heald Automatic Cylindrical Grinders.
- BROWN & SHARPE, CINCINNATI, BECKER, etc., Horizontal and  
Vertical Milling Machines.

Air Compressors, Engines, Boilers, Punch and Shears,  
Stamping Presses, Vises, Leather Belting, Etc., Etc.

**Norton-Broadway Machinery Co.**

238 Broadway, Cincinnati, Ohio

# POWER PRESSES

## FOR SALE

### TOGGLES

Nos. 1½, 3½ & 4A Bliss.  
Nos. 166, 168 & 169½ Toledo.  
Nos. SA175, 184 & 953 Ferrac-  
cute, Double Crank, 72" to  
112" between uprights.

### STRAIGHT SIDE

Nos. 54, 55 & 55½ Toledo.  
Nos. 74 & 75½ Bliss.  
No. 54G Garrison.  
Nos. D73 & D54 Ferracute.

### DOUBLE CRANKS

No. 4B Bliss 42", M. D.  
No. 6J Standard, 44" M.D., new  
No. 165S Consolidated, 41", Fly.  
No. SG87 Ferracute, 99" Grd.  
No. SG79 Ferracute, 100" Grd.  
No. SRG102 Ferracute, 40" Grd.  
No. SRG104 Ferracute, 58" Grd.

**Fineat Selection in the Country**

*Write or Wire for Complete List*

## Joseph HYMAN & Sons

Richmond St. and Erie Ave., Philadelphia, Pa.

Phone Regent 7727

- 1-MORRIS 4' Plain Radial Drill with motor on arm, practi-  
cally new, including motor and starter ..... 82450.
- 1-MORRIS 18"x10' quick change, 3-step cone, dbl. bk. grd.  
Lathe, with taper attachment, first class condition..... 1000.
- 1-MORRIS 18"x8' qk. ch., Grd. Head Lathe, can be arranged  
for motor or countershaft drive, practically new..... 1100.
- 1-MORRIS 22"x10' 3-step cone, d.b.g., semi-qk. ch. Lathe, A-1..... 950.
- 1-LeBlond 24"x12' quick change, 3-step cone, double bk. grd.  
Lathe, with belt shifter, first class condition..... 1150.
- 1-Bickett 42"x42"x28" 2-hd. Planer, arr. for mtr. dr., including  
a variable sp. 20 h.p. mtr., 220 v., d.c. Has never been used.. 5000.
- 1-Warner & Swasey Hand Screw Machine, cone drive, back  
geared, with oil pump, first class condition..... 300.
- 1-Dreses 1" cone dr. Hd. Screw Mch., oil pump & collets, A-1..... 200.
- 1-18"x8' Chard 3-step cone semi-qk. ch. Lathe, good cond..... 500.
- 1-14"x6' Monarch cone drive d. b. g., q. c. Lathe, good cond..... 175.
- 1-4"x20" wide Faced Grinder, first class condition..... 250.
- 2-Lincoln Millers, Type 10, rapid traverse to table, good, ea..... 300.
- 1-Steptoe No. 0 Milling Mch., cone fd., first class condition... 300.
- 1-Hoefer 23" 2-spdl. Gang Drill, grd. fd., squared tables, A-1..... 300.
- 1-Webster & Perks 5-spdl. Nut Tapper, first class condition... 200.
- 1-MORRIS Horiz. Drilling & Boring Mch., t. a., pract. new 1500.
- 1-Thompson Elec. Butt Welder, Type 6, 230 v., sgl. ph., A-1..... 900.
- 2-4" 4-spdl. Gridley Automatics Nos. 2997 & 2765, with extra  
equipment, good condition, each..... 500.
- 2-14" 4-spdl Gridley Autos, Nos. 6102 & 6103, extra equip., good  
cond., arr. for motor dr., including 5 h.p., a.c., 220 v. mtr., ea. 850.
- 1-14" 4-spdl. Gridley Automatic, pract. new, extra equip. arr.  
for motor drive, including 7½ h. p., a. c., 220 v. motor..... 1500.

**The Morris Machine Tool Co., Cincinnati, Ohio**



# J.J. McCABE SINGER BUILDING NEW YORK CITY

## LARGE BORING MILL

96" sw., Niles Vertical Boring and Turning Mill, 2 swivel heads, table 68" diam, 54" height, under tool. Double box cored housings, cone-drive. Rated A1.

## McCABE "2-in-1" LATHES

Used but rebuilt  
in our own shop

26-48" swing, 12' bed.  
32-54" swing, 14' bed.  
26-48" swing, 24' bed, large geared plate, taper attachment.  
26-48" swing, 22' bed.  
26-48" swing, 26' bed.

### McCabe-Former Pattern

24-40" swing, 10' bed.  
26-44" swing, 10' bed.

## NEW "2-in-1" LATHES

12-ft. to 32-ft. Beds

## OTHER LATHES

14" sw., 8' bed, Sidney, q. c.  
15" sw., 6' bed, Sebastian.  
18" sw., 10' bed, McCabe, q. c.  
18" sw., 12' bed, Schumacher & B.  
21" sw., 12' bed, McCabe, q. c.  
24" sw., 14' bed, Prentice.  
26" sw., 14' bed, Niles-Bement-P.  
32" sw., 20' bed, McCabe, q. c.  
42" sw., 16' bed, McCabe, geared head, quick change.  
50" sw., 20' bed, Pond.  
50" swing, 24' bed, Bement-Miles, triple geared.  
60" sw., 28' bed, Wickes.  
84" sw., 46' bed, Putnam, motor-dr.  
110" swing, 42' bed, Bement-Miles, 5" blocks.

## PLANERS

84"x80"x30' Pond, 4 heads.  
72"x72"x24' Niles, 4 heads.  
54"x54"x12' Pond, 4 heads.  
48"x48"x15' Pond, 2 heads.  
36"x36"x12' Gray, 2 heads.  
26"x26"x 6' Niles, 1 head.

## A FEW OF THE OTHER BARGAINS

16" stroke, Smith & Mills Shaper.  
18" stroke, Ohio Shaper.  
30" Gould & Eberhardt Gear Cutter.  
18" Gleason Bevel Gear Cutter.  
No. 15 Bliss Press.  
28" Espen-Lucas Cold Saw.  
"IM" Q. & C. Cold Cut-Off Saw.  
25 lb. Dupont Hammer.  
50 lb. Little Giant Power Hammer.  
50" Bullard Boring Mill.  
No. 3 Baker Keyseater.  
24" arm Radial Drill, speed box.  
4" arm Radial Drill, speed box.  
24" stroke, Bement-Miles Slotter.  
21" Turret Lathe, Gisholt Gap.  
3x36" Jones & L. Turret Lathe.  
Horizontal & Vert. Newton Miller.  
No. 5 Hendey, Lincoln type Miller.  
No. 3 Cincinnati Plain Milling Mch.  
No. 22 Brainerd Plain Milling Mch.  
No. 14 Landis Universal Grinder.  
Bridgeport Roll.  
48" bar, Bement-Miles Horizontal Boring Mill.  
22" Bar Horizontal Boring Mill.  
42" throat Perkins Punch.  
50" throat McCabe Punch & Shear.  
60" throat H. & J. Horiz. Punch.  
10' McCabe Rolls, drop end.  
800 lb. Bement Steam Hammer.  
19" Gap Air Riveter.  
14" Acme Bolt Cutter.  
3-Hack Saws.

## MANY OTHER LARGE TOOLS—

*of the kind rarely found on the Used Machinery Market.*

**WRITE FOR THE NEW COMPLETE LIST**

**J. J. McCabe Lathe & Machinery Corp'n**  
**SINGER BUILDING - - NEW YORK CITY**

## SELECTED USED MACHINE TOOLS

### TURRET and SCREW MACHINES

B. & S. No. 0G auto, with screw slotting attach	\$ 875.
No. 72 Acme, $\frac{1}{2}$ " capacity	500.
LeBlond 25"x12" mtrs tur.	1100.
J. & L. 3" geared head, chucking equipment	300.
Springfield 28"x10" universal turret lathe	450.
2" Cleveland automatic	375.
No. 2 Bardons & Oliver	385.
No. 2 W. & S., plain hd	375.
24" Gisholt	1000.
No. 8 Garvin hand screw, 2" capacity	435.
No. 55 Acme 4 spdl, 1 $\frac{1}{2}$ "	640.
No. 52 Acme 4-spdl, $\frac{1}{2}$ "	430.
24"x8" Gridley	840.
2"x24" J. & L. bar machine, geared head	535.
24"x36" Acme bar mch	750.

### MISCELLANEOUS

Racine No. 7A hack saw, practically new	\$ 350.
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### MISCELLANEOUS—CONTINUED

F. & E. 36" band saw, m.d.	\$ 75.
Racine No. 9A hack saw, practically new	420.
Auto 2 cyl'd'r compressor, 13 cu. ft., 150 lb. pressure	50.
Pratt & Whitney No. 12 profiling machine	250.
American positive pressure blowers, No. 3, \$20; No. 5	30.
No. 1 LaPointe keyway broaching machine	275.
Whiting No. 6 double end punch & sh., 12" dia., $\frac{1}{2}$ " x $\frac{1}{2}$ "	450.
No. 4 Canton port flr. crane	100.
No. 3 Baker keyseater, with equipment	700.
33" G. & E. auto gear cutting machine	400.
3-16" Shuster ADT model riveter	100.
Burke 20" cold saw	175.
Davis cutting-off machines, 5" and 6", each	100.

**THE E. A. KINSEY CO.,** 335 West Fourth Street, **CINCINNATI, O.**

**BRANCHES:** INDIANAPOLIS, IND., HAMILTON, OHIO, DAYTON, OHIO, LOUISVILLE, KY., COLUMBUS, OHIO

## Good Used Tools

2 Spindle (12" overhang) ALLEN H. S. B. B. Drill Press.

4 Spindle (12" overhang) ALLEN H. S. B. B. Drill Press.

12"x5' VERNON Q. C. G. Lathe with taper, like new.

20"x10' MONARCH Q. C. G. Lathe.

3 $\frac{1}{2}$ "x60" LO-SWING Lathe.

Type B BRIGGS Milling Machine—34" feed.

Type B BRIGGS Milling Machine—42" feed.

24"x24"x24" CINCINNATI Crank Planer.

72"x56"x14' GRAY Planer, 2 heads.

**Stocker-Rumely-Wachs Co.**

117 N. Jefferson St.,

Chicago, Ill.

# Must Vacate Our Warehouse

## Attractive Prices to Move Stock

### *Hundreds of Other Bargains!*

<b>BLOWERS:</b>	2—No. 8 Sturtevant Pressure, bottom horizontal discharge. Outlet 13" dia., each.....	\$ 60.
	2—No. 8 Buffalo Volume Blowers, one 13" dia. outlet, one 16 $\frac{3}{4}$ " dia., each.....	\$ 60.
<b>BORING MILLS:</b>	1—Warner & Swasey 30" Vert. Turret Boring Mill, table 29" dia., single pulley drive.....	\$ 250.
	1—Bridgeport 36" 48" Extension Vertical Boring Mill, one swivel head.....	\$ 350.
	1—Betts 72" Vertical Boring Mill, table 60" dia., 7 $\frac{1}{2}$ " thick. 2 swivel heads. Weight about 34,000 lbs.....	\$ 750.
<b>LATHES:</b>	*1—McMahon 16"x6' Lathe, $\frac{3}{4}$ " hollow spindle, 14" 4-jaw independent chuck, as is.....	\$ 75.
	10—Walcott 26"x10'6" Hvy. Duty Qk. Change Gear Engine Lathes, dbl. bk. grd., 2 $\frac{1}{2}$ " hollow spindle, standard equip., 95% new, ea.....	\$ 690.
	1—Fox Turret Lathe 16"x5', 6-hole turret, 1 $\frac{1}{4}$ " holes, hand feed to turret, hollow spindle, chasing bar, 13" 3-jaw chuck. Countershaft.....	\$ 125.
<b>MILLING MCHE.:</b>	1—Cincinnati No. 3 Plain Milling Mche. with overhanging arm. Table 12"x3'11". As is.....	\$ 250.
<b>COLD SAWS:</b>	1—Wagner Size 18 Type 3 for 18" dia. saw. Vise has jaws 10" long, 4" deep, open 6". Hand geared ratchet feed.....	\$ 75.
	1—Glem No. 22. Takes 22" dia. saw. Capacity: round 6", square 5 $\frac{1}{2}$ ", I-beams 8", channels 10", angles 6", 100 lbs. rails. Screw hold-down. Countershaft.....	\$ 150.
<b>MISCELLANEOUS:</b>	Oster Pipe Machine, hand power, on pedestal stand. Cuts pipe up to 4". Fine cond.....	\$ 40.
	Eaton-Cole-Burnham Belt Drive Pipe Machine, cuts pipe 1" to 4". Fine condition.....	\$ 275.
	Eaton-Cole-Burnham Belt Drive Pipe Machine, cuts pipe 2 $\frac{1}{4}$ to 8". Fine condition.....	\$ 550.
	Straight Side Punch Press on iron stand, $\frac{3}{4}$ " stroke. Good condition.....	\$ 60.
	No. 56 Double Housing Knuckle Joint Embossing Press, 2" stroke. Pressure 60 tons. Good condition.....	\$ 275.
	33 Machinists Vises 4" to 7", plain & swivel jaw. Plain jaw, \$1.50 per inch. Swivel jaw, \$2.00 per inch.	

**RUSSELL MACHINE COMPANY**  
28th St. & A. V. R. R.,      PITTSBURGH, PA.

# FOR SALE BY

## The Co-Operative Machinery Co.

7514 Indiana Ave.,      Cleveland, O.

National Acme Bolt Threader, two spindle, with two No. 36 die heads.....	\$ 200.
No. 26 Atlas Arbor Press, like New.....	100.
Drill Press, used 10" Winterhoff Bench, 1/2" capacity.....	35.
Drill Press, 2 spdl. Ball Bearing Allen, good condition.....	250.
Drill Press, 20" Silver Back Geared, light type.....	100.
Drill Press, 20" Superior Plain, wheel and lever feed.....	60.
Grinder, used Detroit Centerless.....	250.
Grinder, used Capital Internal.....	290.
Grinder, No. 2 Webster & Perks 10"x30" Universal Cyl., complete with all regular equip. Tool in very good cond.	575.
Lathes, Porter-Cable 9"x14" Mfg. Lathe, good as new.....	275.
Lathe, 14"x6' Porter Engine Lathe.....	200.
Lathe, Woods Model C Tilted Turret, plain head, power feed to turret, 10" Barker wrenchless chuck, fine condition...	450.
Lathe, used 13"x8' Willard, double back gear, fine cond.....	250.
Lathe, new 9"x24" Sundstrand Mfg., gear drive.....	590.
Miller, used No. 2 LeBlond Heavy Duty Plain.....	575.
Miller, new No. 1 1/2 Rockford Plain.....	1007.
Millers, used U. S. Hand Millers, good condition.....each	130.
Motor, 7 1/2 H. P. Western Electric, d. c., 230 volt, 1750 r. p. m., complete with rails, pulley and starter.....	90.
Punch and Shear, mfrd. by King Bridge Co., 16" throat, 1 1/2" stroke, punch 3/4" thru 3/4", shear 4 1/2"x3"x5/16" angle..	300.
Screw Machine, used No. 1 Garvin Plain, practically new...	195.
Tumbling Barrel, No. 2 Globe Hexagon Horizontal, 13 1/2" diameter, x24" long with 8" hand hole.....	65.

- 
- 7—No. 55 National Acme Automatics, serial Nos. 9293, 9290, 9606, 10144, 7448, 9069, 7445, complete with Motors, 5 h. p., 3 phase, 60 cycle, 440 volt.
- 1—No. 515 National Acme Automatic, motor driven, with 3 h. p. Western Electric Motor, 440 volt, 1800 r. p. m.
- 3—Model "A" Cleveland Automatics, used but 60 hours, absolutely like new, complete with all regular equipment.
- 1—No. 53 National Acme Automatic, serial No. 10109, motor driven with 5 h. p. Robbins & Meyers Motor, 440 volt.

# USED

## BORING MILLS

- 24" Bullard vertical turret lathe, New Era.
- 30" Bullard, 3-jaw chkl., mtr. dr. (2).
- 34" Rogers, grd. feed, motor drive.
- 42" Baush, 2 swivel hds., pl. tbl., m.d.
- 42" Bullard rap. prod., 2 swiv. hds.
- W. F. & J. Barnes horiz. drilling & boring.

## DRILLS

- No. 3 Avey, power feed.
- 20" Prentice, lever feed.
- 20" W. F. & J. Barnes, wheel and lever, power feed (3).
- 21" Cincinnati, sliding head., b. g., p. f., tapping.
- 23" Rockford sliding hd., back grd., power feed, (3).
- 24" Kern, b. g., pwr. fd., tapping.
- Colburn No. D-5 heavy duty.
- Natco No. 14 Multi-Driller, bored for 22, equip. with ten 1 1/2" spdl.

## RADIAL DRILLS

- 3" American, pl., gr. box, swg. table.
- 3" Prentice plain, box table.

## GANG DRILLS

- 4-spdl. 20" Barnes, w. & l., pwr. fd.
- Moline No. 6-D, 24" rl., 8 BV-14 hds.
- Moline No. 7, 24" rail, 4 No. 28 hds.
- Moline No. 11-D, 5" rl., 8 BV-14 hds.
- Moline No. 16-D, 24" rl., 6 BV-20 hds.
- Moline No. 17-D, 24" rl., 8 BV-14 hds.
- Moline No. 7-D Cylinder Borer, 30" rail, 4 CWL heads.

## GEAR CUTTERS

- No. 12 Barber-Colman hobber.
- No. 5 B. & S. spur gear cut., 36" cap.
- 50"x12" Gould & Eberhardt, spur, with rack cutting attachment.
- No. 6 Fellows gear shaper.

## GRINDERS

- No. 1 Cincinnati pl. cutter grinder.
- No. 1 1/2 Cincinnati univ. cutter gdr.
- 10"x72" Norton plain., cylindrical.
- 12"x48" Cincinnati pl. cylindrical.
- 12"x48" Cincinnati univ. cylindrical.
- 16"x48" Cincinnati pl. cylindrical.
- No. 6 Bryant internal.
- No. 20 Heald rotary surface.
- Pratt & Whitney vertical surface.

## GRINDERS—Continued

- No. 4 Gardner disc (3).
- 84"x24" Diamond face, motor drive.
- Type A, Production polisher.

## LATHES

- 9"x18" Porter-Cable.
- 14"x 6" Rockford, c. r., quick chg.
- 16"x6" L. & S., 3-step, c. r., quick change, practically new.
- 16"x8" Bradford, 5-step, c. r., taper.
- 16"x8" Von Wyck, 5-step, c. r.
- 18"x8" S. & B., 3-step, comp. rest.
- 18"x13" Lehmann, qk. ch., 3-step, c. r.
- 18"x14" Rockford, c. r., qk. chg.
- 20"x8" L. & S., 5-step, quick ch., c. r.
- 22"x8" Bradford, qck. chg., c. r.
- 24"x12" Reed, 4-step, compound rest.
- 28"x14" LeBlond, 3-step, comp. rest.

## MILLING MACHINES

- No. 1 Cincinnati plain, cone.
- No. 1 1/2 Cincinnati plain, cone.
- No. 2 Cincinnati plain, cone.
- No. 2 1/2 Rockford universal, cone.
- No. 3 Cincinnati plain, high power.
- No. 3-B K. & T. vert., 42" table trav.
- No. 4 Becker-Brainerd vertical.
- No. 6 Becker-Brainerd vertical.
- Putnam, Lincoln type (3).

## PLANERS

- 24"x24"x 6" Cincinnati, 1 head.
- 24"x24"x 6" Whitcomb, 1 head.
- 66"x66"x17" Harrisburg, 2 heads.

## SCREW MCHS. & TURRET LATHES

- 1" Smith screw machine, plain head.
- 1 1/2" Acme screw mche., friction hd.
- No. 1 Warner & S. hollow hexagon.
- 3"x36" J. & L. flat turret, grd. hd.
- 21"x10" Gisholt, 3-jaw chuck.
- No. 53 National-Acme automatic.

## SHAPERS

- 20" Milwaukee crank.
- 21" American b. g. crank.
- 28" American b. g. crank.

## SAWS

- Q. & C. cold saw.
- Klemm metal band saw.
- No. 5 Marvel hack saw.

*MARSHALL & HUSCHART MACHINERY CO.*

17 So. Jefferson St., Chicago, Ill.

# ReMANUFACTURED - (ORIGINATED BY US) - MACHINE TOOLS

R&G, U. S. PAT. OFF.

In our stock we have more than 2000 high grade machine tools ready for immediate delivery. All are bargains and every one is guaranteed. Write for our latest complete "Green List" and prices.

## LATHES

- 2-13" x 5' Willard.
- 2-14" x 6' Rockford.
- 1-14" x 8' Lodge & Shipley.
- 5-18" x 8' Boye & Emmes.
- 30-20" x 8' American.
- 14-20" x 8' LeBlond.
- 5-20" x 12' American.
- 5-20" x 16' American.
- 20-21" x 10' LeBlond.
- 10-24" x 11' Cisco.
- 3-24" x 12' Providence.
- 1-24" x 15' Chard.
- 1-24" x 24' Lodge & S. selective hd.
- 7-25" x 10' LeBlond.
- 10-25" x 12' LeBlond.
- 24-26" x 10' Canada.
- 10-26" x 18' Bridgeford.
- 18-32" x 12' Pittsburgh.
- 1-36" x 18' Putnam geared head.
- 4-36" x 30' Pittsburgh Geared Hd.
- 3-36" x 37' Niles Bement Pond.
- 1-51" x 20' LeBlond.
- 1-56" x 64" x 18' Johnston.
- 1-60" x 18' Johnston.

## MILLERS

- 2-No. 1B Milwaukee.
- 5-No. 2 Kempsmith.
- 3-No. 2 Rockford.
- 2-No. 2B Ohio.
- 6-No. 2 B Hvy. Brown & Sharpe.
- 4-No. 3 Kempsmith.
- 9-No. 3-B Hvy. Brown & Sharpe.
- 1-No. 3B Milwaukee, Universal.
- 2-No. 4 Cincinnati.
- 2-No. 4 LeBlond.
- 3-No. 4-B Becker.
- 2-No. 3 Cincinnati Vertical.
- 2-No. 4 Cincinnati Vertical.
- 4-No. 5-C Becker.
- 3-No. 6 Becker.

## BORING MILLS—Vertical

- 2-24" Bullard "New Era."
- 1-42" Gisholt.
- 1-44" Niles Bement Pond.

## BORING MILLS—Vertical—Cont.

- 1-48" Gisholt.
- 3-52" King.
- 1-54" Bullard.
- 2-62" King.
- 3-72" Cincinnati.

## BORING MILLS—Horizontal

- 3-3" Foote-Burt.
- 1-No. 3A Universal.
- 1-No. 3 Rochester Floor Borer.

## DRILL PRESSES

- 1-20" Barnes all geared.
- 1-34" Barnes.
- 1-36" Snyder.
- 1-No. 24 Foote-Burt.
- 1-No. 25 Foote-Burt.
- 6-No. 23 2-spl. Henry & Wright.
- 1-3-spindle Henry & Wright.
- 4-6 spindle Allen.

## PLANERS

- 1-24" x 24" x 6' American.
- 1-24" x 24" x 6' Liberty.
- 2-36" x 36" x 10' Bickett.
- 1-36" x 36" x 12' Woodward & P.
- 3-36" x 36" x 18' Cincinnati.
- 3-42" x 42" x 10' Gray.
- 1-72" x 56" x 36' Cincinnati.

## GRINDERS

- 3-6" x 18" Landis.
- 12-10" x 36" Norton.
- 3-10" x 72" Norton.
- 3-12" x 26" Modern.
- 11-14" x 50" Norton.
- 1-16" x 72" Norton.
- 1-18" x 30" x 96" Norton Gap.

## PRESSES

- 2-No. 4 Walsh.
- 1-No. 32 Toledo Solid Back.
- 1-No. 34 Toledo Solid Back.
- 1-No. 744 Bliss Geared.
- 1-No. 754 Bliss Geared.
- 1-No. 93-A Toledo Double Crank.
- 1-No. 94-F Toledo Double Crank.
- 1-No. 69 Stoll Geared.
- 1-No. 87 Bliss Geared.

*Our Guarantee: Your money back if you return a machine within thirty days, freight prepaid.*

**HILL, CLARKE & CO. of CHICAGO, 649 W. Washington Blvd., CHICAGO, ILL.**

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# LARGEST STOCK IN THE EAST

New and Used High Grade Modern MACHINE TOOLS

Guaranteed At Prices to Net You a Worth While Saving

## BORING MILLS

- 4—Bullard 24" New Era type, vert.
- 2—Niles-Bement-Pond 52", vert.
- 1—Landis No. 35 horiz., floor type.

## DRILLS—Upright and Radial

- 12—New 24" Sibley upright.
- 15—Allen 1, 2, 4 & 6 spindle.
- 1—34" Mueller Radial, S. P. D.
- 1—Foot-Burt 4 1/2, 4-spindle, rail.
- 2—New Turner No. 3, vert. turret.
- 1—N.-B.-P. 96" Ridgeway, motor drive, plain radial.
- 1—Baush 6'.

## DRILLS—Multiple Spdl., Rect. Head

- 1—Nasco No. 14, q. c. g.
- 1—Nasco No. 30, 12 spindle.
- 2—New Baush No. 3, 21 spindle.
- 1—New Baush No. 4, 56 spindle.
- 1—Fox, 6 spindle.

## PLANERS

- 7—Putnam 26x26x8', 2 heads.
- 1—Woodward & P. 36x36x12', 4 hds.
- 1—Putnam 48"x48"x12', 2 hds., m. d.
- 2—Clevel'd 36x36x8 opens'e. NEW.
- 2—Gray 38"x38"x20', 3 heads, motor drive.

## LATHES

New Star Lathes, all sizes with all attachments.

- 10—New South Bend 15x5 & 18x8 gap
- 10—New South Bend 15x5.
- 1—Hendey 20x7, geared head.
- 2—Hendey 14x6, with taper.
- 2—LeBlond 26x10 crankshaft.
- 1—Walcott 26x14, 6", q. c. g.
- 1—Johnson 30x12, motor dr.
- 1—Bridgeford 36"x42" (raised to swing 60").
- 300—Additional Lathes, all sizes and makes.

## GRINDERS

- 1—Brown & Sharpe No. 14 plain.
- 1—Landis 10x20 plain.
- 16—Cincinnati No. 2, 12x36.
- 4—Norton 6x32 & 2—Norton 10x36.
- 1—Fitchburg 12x54.
- 1—Norton 16x36.
- 4—Heald Nos. 60, 65 & 70.
- 2—Heald rot. sur. Nos. 210, 255.
- 1—Blanchard No. 16, motor dr.

## SHAPERS AND SLOTTERS

- 3—New 16" Davis, s. p. d.
- 1—American, 28".
- 1—Newton 10" slotter.
- 1—Pratt & Whitney 10" slotter.
- 2—Dill 10-12" Slotters.

## MILLERS—Plain, Mfg., Univ. & Vert.

- 1—Brown & Sharpe No. 2 plain.
- 1—New Rockford No. 2 1/2 universal.
- 1—P. & W. 6x80 thread.
- 2—Briggs type B.
- 2—Taylor & Fenn vertical.
- 1—Becker "C" vertical.
- 3—Becker No. 2H, 3—4B vertical.
- 1—Newton No. 1 duplex.
- 1—New Garvin No. 3 duplex.

## GEAR CUTTERS

- 2—Barber-Colman No. 3.
- 4—Hercules 8".
- 2—Brown & Sharpe 3x26.
- 1—Brown & Sharpe No. 13.
- 1—Gould & Eberhardt 60", spur.
- 1—Fellows Nos. 61, 6 & 612.
- 1—Gleason 24" Gear Planer.

## TURRET & SCREW MCHS.

- 1—Foster No. 1-B turret.
- 1—Warner & Swasey No. 3-A.
- 3—Foster No. 2B turret.
- 10—Warner & S. No. 1, wire fd. tur.
- 1—New Foster No. 10 turret.
- 4—Greenlee, 2 1/2x26" turret.
- 4—J. & L. 2x24.
- 1—J. & L. 2-spindle turret.
- 1—J. & L. 3x36", flat.
- 1—Acme 1 1/2" turret.
- 2—P. & W. 1x14 screw.
- 25—New wire feed plain hd. screw.

## AUTOMATIC SCREW MCHS.

- 12—Gridley 4-sp., 7", 1 1/2", 1 1/4" cap.
- 2—Cleveland 2 1/2" Model A.
- 15—Cleveland 1 1/2" to 3" capacity.
- 1—Cleveland 1 1/2" to 3" capacity.
- 1—Cleveland 7 1/4".
- 1—B. & S. No. 2.
- 1—New Britain 1x5 bar machine.
- 10—New Britain Nos. 22, 24 and No. 34 chucking.
- 1—New Britain 1 1/2x7.

## PRESSES

- 2—Toledo No. 53, flywheel.
- 4—Toledo No. 55 & No. 55 1/2, grd.

## MISCELLANEOUS

- 1—Acme 2" Bolt Cutter.
- 1—Acme bolt cutter, 3" cap., motor.
- 1—National bolt cutter, 2-spdl., 1".
- 1—Landis 1 1/2" bolt cutter, dbl. hd.
- 1—Landis 1 1/2" 3-sp. mtr. dr., bolt cut.
- 1—Garvin 36" cam cutter.
- 1—Quickwork No. 4-B rot. shear.
- 1—New Quickwork No. 6 rot. shear.
- 1—Bliss No. 109 Slitter.

## PARTIAL LIST—

Send for Our Complete Illustrated Stock List

**MOREY AND CO., INC.** 408 Broome St., NEW YORK, N. Y.

# Used Machinery Bargains

## MILLING MACHINES.

No. 0 Rockford, power feed.  
No. 25 Becker, plain (3).  
No. 2-B Brown & Sharpe, plain.  
No. 2 B hvy. Brown & Sharpe, pl.  
No. 3 Cincinnati, plain (3).  
No. 3 Kempsmith, plain.

No. 3 H LeBlond, plain, vert. att.  
No. 3 Cincinnati high power vert.  
No. 5 B Becker, vertical.  
No. 6 Becker vertical.  
Nos. 2 & 3 Pratt & W. die sinkers.  
No. 6 Whitney hand (3).

## DRILLS.

No. 1½ Avey b. b., 1 and 2 spindle.  
28" Hamilton and Aurora drills.  
36" Aurora drills, (2).  
36" Cincinnati, tapping attach.

5' Reed-Prentice plain radial.  
36" American sensitive radial.  
No. 2 Foote-Burt 4-spindle gang.

## LATHES.

14"x 8' Fay & Scott, taper attach.  
16"x 6' Reed-Prentice. sgl. pul. dr.  
18"x 7' Chard, d. b. g.  
18"x 9' Bell, d. b. g.  
20"x 8' Reed, with 220 v., d. c. mtr.  
20"x 8' Hamilton, d. b. g.

20"x 8' Lodge & Shipley, grd. hd., q. c.  
20"x 10' American, geared head, q. c.  
22"x 10' Davis, d. b. g., q. c.  
34"x 10' Putnam, heavy type.  
38"x 14' Fifield, heavy pattern.

## SHAPERS AND PLANERS.

16" Stockbridge shaper.  
24" Kelly back geared shaper.  
26"x 6' Pond planer.

30"x 8' Ohio planer, heavy pattern.  
36"x 36"x 15' Betts planer, 2 hds.

## GRINDERS.

6"x 32" Norton grinder.  
14"x 72" Norton grinder.  
16"x 48" Landis crank pin, self contained.  
12"x 32" Landis universal.

16"x 36" Landis plain.  
No. 2 Oesterlein tool & cutter.  
No. 2 Woods tool & cutter.  
No. 1 Cincinnati tool grinders (3).  
P. & W. vertical surface.

## SCREW MACHINES AND TURRET LATHES.

No. 00 B. & S. auto. screw machine, slotting attach., serial 6202.  
½" Cleveland model A, ser. No. 27360.  
2" Cleveland model A, ser. No. 26302.  
¼" Cleveland model A. (2).  
No. 1 Garvin hand screw machine.  
No. 3 Superior hand screw mche.  
No. 4 Milholland hand screw mche.  
16" Drees Fox lathe.

18" Springfield and Am. Fox lathes.  
No. 3 Warner & Swasey Fox lathe.  
3x36 Jones & Lamson.  
21" Gisholt turret lathe.  
20x8 Fay & Scott univ. tur. lathe.  
No. 3 Pratt & Whitney turret lathe, 3" hole in spindle.  
½" model A Cleveland auto. screw mchs., ser. No. 29000 and above, (8).

## PRESSES.

No. 3 Stiles solid back.  
No. 95 Consolidated, solid back.  
No. 24E Bliss double crank geared press, area bed 14"x 72".

No. 31 Toledo, solid back.  
No. 8½ Zeh & H. screw press, 75 ton, used 24 hours.

## BORING MILLS.

30" Bullard, single turret head.  
36" Niles two heads.

42" Bullard, motor drive, 2 heads.  
2½" Binsse horiz. boring machine.

## TURRET LATHES.

24" and 36" Bullard vertical turret lathes, excellent condition.

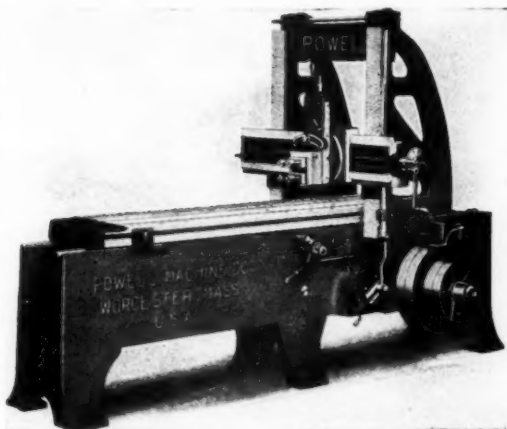
## -SPECIAL BARGAINS-

36"x 18' Fifield Lathe and Taper.....	\$1000.
42"x 36"x 8' Cincinnati Planer, 1 head.....	800.
36"x 30"x 8' Cincinnati Planer, 2 heads, A. C. Motor....	800.
5' Bickford Full Universal Radial, A. C. Motor.....	800

**A. D. White Machinery Co.**  
108-114 N. Jefferson St., CHICAGO, ILL.



# Nearly New Planers



American 22"x22"x5', one head,.....	\$ 525.
American 24"x24"x6', one head,.....	775.
Ohio 24"x24"x6', one head, heavy,.....	900.
Powell 24"x24"x6', one head, heavy, same as illustrated,.....	950.
Cincinnati 30"x30"x8', one head,.....	1075.
Cincinnati 30"x30"x12', one head,.....	1400.
Niles 30"x30"x12', one head,.....	1100.
Gray 30"x30"x12', two heads,.....	1800.
Detrick-Harvey Open Side, 36"x36"x10', two heads,.....	2400.
Cincinnati 48"x36"x20', three heads,.....	4500.

These are all thoroughly good planers, well worth a place in any shop. All are ready for immediate delivery and instant service.

*Send for list of other used tools we have for sale*

## Monarch Machinery Co.

300 North Third Street,

PHILADELPHIA, PA.

# A Quick Orderly Liquidation Sale

## Of Machine Tools and Plant Equipment of the

### RUSSEL MOTOR AXLE CO. at NO. DETROIT, MICH.

#### GEAR MACHINES

No. 6 Fellow gear shapers.  
6", 11" Gleason generators.

4 Gear testing machines.

#### GRIDLEYS

2½" to 4½" single spindle automatic screw machines.

#### MILLING MACHINES

No. 0 LeBlond plain.  
18" Cincinnati duplex.  
No. 3 Hendey Norton plain.

No. 5 Hendey Lincoln type.  
No. 2 Cleveland plain.  
Model "A" Gooley & Edlund.

#### ENGINE LATHES

16"x 6" Hamilton.  
14"x 5" F. E. Reed.  
20"x 10" American.

24"x 12" Reed.  
14"x 6" Pratt & Whitney.

#### TURRET LATHES

6A Potter & J. auto. turret lathe.  
Nos. 3, 4 & 6 Warner & Swasey.  
3"x 36" Jones & Lamson.  
24" Gisholt, 6" hole, taper attach.

Fitchburg Low-Swing 3½"x 80-8x 80.  
14"x 8" & 3"x 36" Pratt & Whitney.  
2"x 26" Pratt & Whitney.

#### DRILL PRESSES

22", 25" & 26" Barnes single spdl.  
25" J. E. Snyder Co.  
Nos. 413 & 416 Baker Brothers.  
22½" Barnes 3-spindle gang.  
4-spindle Foote-Burt gang. 3" spdl.

4-spindle Foote-Burt gang, 3½" spdl.  
6-spindle multiple Baush.  
16-spindle multiple Baush, b. d.  
24-spindle multiple Baush.

#### PRESSES

Cleveland single end punch, 12" throat.

#### GRINDERS

10A Byrant internal.  
No. 615 Fitchburg cylindrical.

No. 2 Gould & Eberhardt cutter.  
No. 2-A Landis universal.

#### MOTORS

3 Phase, 60 Cycle, 220 Volts, A. C.  
40 h. p. Western Electric, 900 r. p. m.  
30 h. p. Wagner 700 r. p. m.  
30 h. p. Fairbanks-Morse, 900 r. p. m.

50 h. p. Wagner, 900 r. p. m.  
30 h. p. Wagner, 900 r. p. m.  
30 h. p. Fairbanks-Morse, 1200 r. p. m.

Wotten battery charging motor generator, type B. E 21-6.

**Shafting, Belting, Pulleys, Hangers and Small Shop Tools**

— ADDRESS —

**RUSSEL MOTOR AXLE CO.,**  
North Detroit, Mich.

# FOR SALE BY Simmons Machine Tool Corp.

NEW YORK      ALBANY      BUFFALO  
182 Lafayette St.    1212 Troy Road    88 Exchange St.

## Milling Machines

No. 5 Cincinnati High Power Plain.  
No. 3 Cincinnati High Power Univ.  
No. 3-S Cincinnati Universal.  
No. 2 Cincinnati High Power Univ.  
No. 4 Cincinnati High Power Vert.  
No. 3 Cincinnati High Power Vert.  
No. 2 Cleveland All Geared Plain.  
No. 1 Cleveland All Geared Plain.  
No. 20 Garvin Vertical New.  
No. 22 Garvin Vertical New.  
No. 15 Garvin Vertical 3 Spindle.  
No. 3 Davis Drum Type Cont.  
24" x 24" x 20" Ingersol 5 Heads.

## Gear Cutters

No. 3 Brown & Sharpe Automatic.  
No. 12 Barber-Colman.  
18" Becker-Brainerd.  
24" Gleason Bevel Planer.  
36-BM Gould Eberhardt Rough.  
No. 5 Lees Bradner Hobber.  
24" Schuchardt Schutte.

## Keyseaters

No. 6-A Mitts Merrill New.  
No. 3 Mitts Merrill.  
No. 3½ Baker Motor Drive.  
No. 1 Giant.

## Presses

No. 2-B Standard Dbl. Act.  
No. 55 DAG Ferracute Drawing.  
No. 52 SRG Ferracute Stamping.  
21 Ton R. D. Wood Hydraulic.  
No. 2 B. A. Gier Straightening.  
No. 7 Myers Bench Arbor.  
No. 4 Greenerd Arbor.

## Threaders

8" Bignall Keefer Pipe.  
6" Cox Motor Drive Pipe.  
3" Saunders Belt Drive Pipe.  
3" Landis Bolt, Lead Screw.  
1½ Acme Double Head, A.  
No. 732 Greenfield 1" Bolt.  
No. 2 Garvin Tapper B G.  
No. 2X Garvin Tappers.  
No. 1 Garvin Tappers.  
1½" Acme Six Spindle Tapper.

## Saws and Cut-Off

No. 2B Gorton Cut-off.  
No. 3 Burr Cold Saw.  
14" Metal Band Saw.  
6" x 6" Marvel Hack Saw.  
No. 2 Myers Hack Saw.

## Automatics

No. 5A Potter Johnston.  
2¼" Gridley 4 Spindle.  
¾" Gridley 4 Spindle.  
1¼" Gridley 4 Spindle.  
2¼" Gridley 1 Spindle.  
¾" Gridley 1 Spindle.  
2" Cleveland Model A.  
2" Cleveland Model C.

## Turret Lathes

24" Vertical, Side Head.  
34" Vertical, Bertram.  
36" Vertical, Side Head.  
No. 3-A Warner Swasey.  
No. 6 Warner Swasey.  
No. 4 Warner Swasey.  
No. 3 Warner Swasey.  
No. 1 Warner Swasey.  
2¼" x 11 Acme, G. F. H.  
2¼" x 10 Millholland, G. F. H.  
1½" x 18 Pratt & Whitney.  
No. 2½ Garvin, G. F. H.  
No. 5½ Bardons Oliver.

## Vertical Boring Mills

42" Bullard 2 Heads.  
48" Colburn 2 Heads.  
51" Bullard 2 Heads.  
54" Colburn 2 Heads.  
60" Niles 2 Heads.  
60" Cincinnati, Rapid Travel.  
62" Colburn Rapid Travel.  
60" Niles 3 Heads.  
72" Niles 2 Heads.  
84" Pond Extra Heavy.

## Radial Drills

120" Baush Extra Heavy.  
87" Warren D. C. Motor.  
72" American Gear Box.  
72" Bickford Gear Box.  
60" Bickford Gear Box.  
48" Bickford Gear Box.  
36" American Sensitive.  
28" American Sensitive.  
24" Mueller Gear Box.

## Grinding Machines

20" x 144" Landis Plain.  
20" x 84" Landis Universal.  
20" x 72" Brown & Sharpe Universal.  
14" x 96" Norton Plain.  
14" x 50" Norton Plain.  
12" x 36" Modern Universal.  
10" x 72" Norton Plain.  
6" x 32" Norton Plain.  
No. 14 B. & S. Wide Wheel.

## Machine Shop Equipment At Bargain Prices

### LATHES

1	12"x5' Hendey, Q. C.	\$ 300.
1	14"x6' Hendey, Q. C., with taper attach.	400.
1	16" Pratt & Whitney, Stub	135.

### MILLING MACHINES

4	Pratt & Whitney, Lincoln Type. Each	\$ 125.
1	No. 1½ Pratt & Whitney, Hand	75.
1	No. 1 Pratt & Whitney, Plain	175.
1	No. 2 Pratt & Whitney, Horizontal	225.
1	No. 2 Kempsmith, Plain	175.
1	No. 3 Garvin, Plain	175.

### DRILL PRESSES

4	14" Plain Vertical. Each	\$ 60.
3	20" Vertical, Geared. Each	90.
1	23" Barnes, Geared	130.
1	24" Superior, Back Geared	225.

### MISCELLANEOUS

500 Pneumatic Drills, Riveters and Chippers.  
7 Grinders (Emery and Tool).  
100 Motors (25 and 60 cycle).

**MACHINERY & SUPPLY CORPORATION  
JOPLIN, MISSOURI**

## Second-Hand Wood-Working Machinery

For a large list of used wood-working machinery, consult the **Wood-Working Machinery List**, a publication similar to this but devoted to the advertising of saw-mill and wood-working machines. A copy may be had on application to the publisher, **A. H. Hitchcock, 1220-1235 Caxton Building, Chicago, Ill.**

# Opportunity Knocks Again!

## Real Values in Machine Tools—

### LATHES

1-64"x21' New H., with mtr.	\$2350.
1-48"x21' Pond (Plain'd) mtr.	2680.
1-44"x45' S.W. Putnam (Fitchburg) with motor.	3030.
3-32"x12' Pittsburgh, each	900.
1-30"x28' Pond (Plain'd) mtr.	2840.
1-24"x16' Bradford, with mtr. S. P. taper attachment.	2070.
1-24"x16' Whitcomb-Blaisdell	1100.
2-20"x 8' Boye & E., each	775.
1-20"x10' Schumacher B. & E.	725.

### BORING MILLS—VERTICAL

1-10-16' Niles Hamilton mtr.	\$9350.
1-96" Niles mill.	2250.
1-8' Niles mill.	1500.
3-61" Bullard Maxi mill, ea.	5000.
1-54" Bullard Maxi mill.	5500.
2-52" King mills, each.	4500.
2-42" Bullard mills, each	1750.
1-42" Bullard New Era mill.	4100.
1-42" King mill.	3500.
1-36" Bullard New Era mill.	3600.
1-36" Bullard rapid product'n.	2600.

### BORING MILLS—HORIZONTAL

1-No. 4 Detrick & Harvey horizontal, 7" bar, m. d.	
1-No. 40-A Landis horiz., 4" bar.	
2-No. 2 Rockford horiz., ea.	\$ 450.
1-Lucas duplex 19"x48", 3½" spdl.	

### PLANERS

1-72"x72"x24' Detrick & H., m. d.	
1-48"x48"x14' Cincinnati, m. d.	
1-48"x48"x12' Putnam, 3 hds., with motor.	\$2050.
1-42"x36"x10' Cin'ti, 2 hds.	900.

### PRESSES

1-S-304 Ferracute.	\$6000.
1-150 ton high speed steam.	3800.
1-No. 108½ Cleveland punch pr.	5500.
1-No. 75½ Bliss dbl. grd.	1800.
1-No. 34-A Bliss draw'g press	2000.
1-No. 26 Toledo cam press.	2450.
1-79½ Toledo.	

### SHEARS

1-636 Niagara squaring, 36" 10 ga.	\$ 625.
------------------------------------	---------

### GRINDERS

1-21x96 Norton plain.	\$4000.
2-19x50 Norton plain, each	900.
2-No. 14 B. & S. plain, each	780.
1-12x42 Landis plain.	
2-Landis crankshaft.	
1-No. 14 Besly disc.	375.
1-No. 6 Gardner disc.	375.
1-No. 12 Besly disc.	125.

### MULTIPLE DRILL PRESSES

1-12 spindle Harrington	\$ 550.
1-6 spdl. Foote-Burt No. 5.	1800.
1-Moline hole hog	450.

### LARGE TOOLS

1-10-16' Niles vert. bor'g mill, m. d.	
1-96" Niles vertical boring mill.	
1-4000 lb. Massillon steam hammer.	
1-64"x21' New Haven lathe, m. d.	

### RADIAL DRILLS

1-16' Wall radial.	\$1100.
1-Western, 6' arm, with mtr.	1870.
1-Cin'ti Bickf'd, 6' arm, mtr.	2600.
1-6' Niles.	525.
1-4' Hammond radial.	325.
1-2½" Mueller radial.	250.

### STEAM HAMMERS

1-2500 lb. Massillon.	\$2650.
1-3500 lb. Massillon.	2100.
1-1100 lb. Chambersburg.	1200.
1-150 ton United high spd. stm. hyd.	

### MILLING MACHINES

1-1-Elford No. 3-H univ.	\$1150.
1-Becker No. 5-B vertical.	425.
1-Model C Becker vertical.	850.
1-Model A B Becker vert.	340.
2-No. 13B Brown & S., each.	850.
3-Gooley & E., Briggs type, ea.	275.
1-No. 2 Cin'ti pl., sgl. pulley.	650.
5-No. 12 Brown & S., each.	300.
7-20x7"x17 Osterlein, each	260.
2-No. 32 Kempsmith, each.	200.

### GLEASONS

1-Spiral gear rough.	
1-Pinion rougher.	
3-Gear generators.	
1-Bevel gear testing machine.	
1-Bevel gear burnishing machine.	
1-15" Bevel gear testing machine.	
1-New Gleason gr. hardening mch.	

### SCREW MACHINES

1-41" Gridley automatic.	\$ 900.
5-31" Cleveland auto., each	2500.
1-31" Gridley automatic.	900.
2-Model B 2" Cleve. auto., ea.	1275.
3-Model B 2" Cleveland automatics, new, each.	1450.
2-Model B 1½" Cleve. aut., ea.	650.
2-No. 53 Nat'l Acme auto., ea.	1100.
1-4 spindle Gridley 1½"	650.

### TURRET LATHES

1-24" Gisholt turret lathe	\$1100.
1-3x36" J. & L. turret lathe	550.
1-No. 6 Foster screw mch.	475.
2-No. 4 Foster screw mch., ea.	185.
5-No. 4 Drees tur. lathes, ea.	300.

**The EMPIRE MACHINERY EXCHANGE CO., Inc.**

Offices and Warehouses: 2261 E. 14th St., Cleveland, Ohio



## *Leader Pins Bushings Dowel Pins*

### **Economical—Dependable—Convenient**

Leader pins and bushings are of carbonized, hardened steel, ground to glass-hard surface to within .0002" of listed diameters. Bushings, straight, shoulder or extra long, allow for lapping internal diameters with outside diameter for press fit of .002". All needed lengths and diameters are carried in stock.

Dowel pins, hardened and accurately ground to within .0001" plus or minus listed diameters. Stocked in .001" oversize for repairs or renewals. Cannot bulge or upset.

**Immediate delivery from stock.  
Wire, 'phone or write nearest office.**

**Danly Machine Specialties, Inc.**  
**4913 Lincoln Ave., Chicago**

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Long Island City,  
N. Y.  
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# Classified Finding Index

## Air Guns

Powell Co., Wm., Cloonessat

## Arbors, Solid

Nicholson & Co., W. H., Wilkes-Barre, Pa.

## Auto-Gages For Dies

Danly Machine Specialties, Inc., 4913 Lincoln Ave., Chicago

## Automatics

New Britain Machine Co., New Britain, Conn.

## Balancing Ways

Anderson Bros. Mfg. Co., Rockford, Ill.  
Bowsher Co., N. P., South Bend, Ind.

## Balls, Bearing and Burnishing

Abbott Ball Co., Hartford, Conn.

## Band Saw Machines, for Metal

Armstrong-Blum Mfg. Co., 341 N. Francisco Ave., Chicago  
Porter-Cable Machine Co., Syracuse, N. Y.

## Barrels, Tumbling

Abbott Ball Co., Hartford, Conn.  
Scully-Jones & Co., 2012 W. 13th, Chicago

## Bench Legs, Steel

New Britain Mch. Co., New Britain, Conn.

## Bending Machines, Hand and Power

Armstrong-Blum Mfg. Co., 341 N. Francisco Ave., Chicago  
Hendley & Whittemore Co., Beloit, Wis.  
Lewthwaite Mch. Co., T. H. 417 E. 31st, N. Y.  
Laurie Mfg. Co., Springfield, Ill.  
Pedrick Tool & Machine Co., Philadelphia

## Belt and Nut Machinery

Economy Engineering Co., Willoughby, O.  
Foote-Burt Co., Cleveland, O.

## Boring Bars

Pedrick Tool & Machine Co., Philadelphia

## Boring Bars, Cylinder

Pedrick Tool & Machine Co., Philadelphia

## Boring Machines, Horizontal

Avey Drilling Machine Co., Cincinnati  
Morris Machine Tool Co., Cincinnati, O.  
Pedrick Tool & Machine Co., Philadelphia  
Rockford Drilling Machine Co., Rockford, Ill.

## Burnishing Equipment, Ball

Abbott Ball Co., Elmwood, Conn.

## Bushings, Drill Jig

Ex-Cell-O Tool & Mfg. Co., Detroit, Mich.

## Chains, Power Transmission

Whitney Mfg. Co., Hartford, Conn.

## Chucking Machines

New Britain Mch. Co., New Britain, Conn.

## Chucks, Collet

Hardinge Brothers, Inc., 1770 Bertess Ave., Chicago

## Chucks, Drill

Eastern Tube & Tool Co., Inc., 580 Johnson Ave., Brooklyn, N. Y.  
Jacobs Mfg. Co., Hartford, Conn.  
Scully-Jones & Co., 2012 W. 13th, Chicago  
Titan Tool Co., Erie, Pa.  
Westcott Chuck Co., Oneida, N. Y.

## Chucks, Drill and Tap

Peter Bros. Mfg. Co., Algonquin, Ill.  
Scully-Jones & Co., 2012 W. 13th, Chicago

## Chucks, Keyway Cutting

Scully-Jones & Co., Ry. Exch. Bldg., Chicago

## Chucks, Lathe

Westcott Chuck Co., Oneida, N. Y.

## Chucks, Wrenchless

Thomas Elevator Co., 31 S. Hoyne Ave., Chicago

## Clamps, Die

Danly Machine Specialties, Inc., 4913 Lincoln Ave., Chicago

## Clutches, Friction

Edgemont Machine Co., Dayton, O.

## Cold Saws

Burke Machine Tool Co., Conneaut, Ohio  
Peter Bros. Mfg. Co., Algonquin, Ill.

## Collets

Hardinge Brothers, Inc., 1770 Bertess Ave., Chicago

## Contract Work Wanted

Burke Machine Tool Co., Conneaut, O.

## Counterbores and Spot Facers

Glenzer Co., J. C., Detroit, Mich.

## Cranes, Portable

Canton Foundry & Mch. Co., Canton, Ohio

## Crank Pin Turning Machine

Pedrick Tool & Machine Co., Philadelphia

## Cutters, Keyseating

Davis Keyseater Co., Rochester, N. Y.  
Scully-Jones & Co., 2012 W. 13th, Chicago  
Whitney Mfg. Co., Hartford, Conn.

## Cutters, Milling

Genesee Mfg. Co., Rochester, N. Y.  
Whitney Mfg. Co., Hartford, Conn.

## Cutting-Off Machines

Peter Bros. Mfg. Co., Algonquin, Ill.

## Cylinder Boring Machines, Portable

Pedrick Tool & Machine Co., Philadelphia

## Dial Indicators

Federal Products Corp'n, Providence, R. I.  
Wallace Brothers, 160 N. Wells St., Chicago

## Die Sets

Danly Machine Specialties, Inc., 4913 Lincoln Ave., Chicago

## Dies, Pipe Threading

Signal & Keeler Mch. Wks., Edwardsville, Ill.

## Drill Racks

Peerless Machine Co., Racine, Wis.

## Drilling Machine Heads, Multiple

National Automatic Tool Co., Richmond, Ind.  
United States Drill Head Co., Cincinnati

# Classified Finding Index

**Drilling Machines, Automatic Sensitive**  
Kingsbury Mfg. Co., Keene, N. H.

**Drilling Machines, Bench**  
Avey Drilling Machine Co., Cincinnati  
Burke Machine Tool Co., Conneaut, Ohio  
Kingsbury Mfg. Co., Keene, N. H.  
Rockford Drilling Machine Co., Rockford, Ill.  
Sigourney Tool Co., Hartford, Conn.  
Taylor & Fenn Co., Hartford, Conn.

**Drilling Machines, Horizontal**  
Kingsbury Mfg. Co., Keene, N. H.  
Morris Machine Tool Co., Cincinnati, O.  
Rockford Drilling Machine Co., Rockford, Ill.

**Drilling Machines, Multiple Spindle**  
Avey Drilling Machine Co., Cincinnati  
Foote-Burt Co., Cleveland, O.  
Kingsbury Mfg. Co., Keene, N. H.  
National Automatic Tool Co., Richmond, Ind.  
Rockford Drilling Machine Co., Rockford, Ill.  
Sigourney Tool Co., Hartford, Conn.  
Taylor & Fenn Co., Hartford, Conn.

**Drilling Machines, Portable Electric**  
Independent Pneumatic Tool Co., 600 W.  
Jackson Blvd., Chicago  
Stow Flexible Shaft Co., Philadelphia, Pa.  
Strand Co., N. A., 5001 N. Lincoln St., Chicago  
Wisconsin Electric Co., Racine, Wis.

**Drilling Machines, Post**  
Mueller Machine Tool Co., Cincinnati

**Drilling Machines, Radial**  
Morris Machine Tool Co., Cincinnati, O.  
Mueller Machine Tool Co., Cincinnati  
Taylor & Fenn Co., Hartford, Conn.

**Drilling Machines, Sensitive**  
Avey Drilling Machine Co., Cincinnati  
Burke Machine Tool Co., Conneaut, Ohio  
Foote-Burt Co., Cleveland, O.  
Kingsbury Mfg. Co., Keene, N. H.  
Leland-Gifford Co., Worcester, Mass.  
Sigourney Tool Co., Hartford, Conn.  
Taylor & Fenn Co., Hartford, Conn.  
U. S. Machine Tool Co., Cincinnati, O.  
Wisconsin Electric Co., Racine, Wis.

**Drilling Machines, Vertical**  
Avey Drilling Machine Co., Cincinnati  
Foote-Burt Co., Cleveland, O.  
Kingsbury Mfg. Co., Keene, N. H.  
Leland-Gifford Co., Worcester, Mass.  
Rockford Drilling Machine Co., Rockford, Ill.  
Sigourney Tool Co., Hartford, Conn.  
Taylor & Fenn Co., Hartford, Conn.

**Drills, Twist**  
Cleveland Twist Drill Co., Cleveland, O.

**Dust Handling Equipment**  
Knickerbocker Co., Jackson, Mich.

**Emery Wheel Dressers and Cutters**  
Precision Truing Machine & Tool Co., Cincinnati, O.  
Taylor & Fenn Co., Hartford, Conn.

**Feeders, Oil and Soda Water**  
New Britain Machine Co., New Britain, Conn.

**Filing Room Equipment**  
Wardwell Mfg. Co., Cleveland, O.

**Flexible Shafts**  
Strand Co., N. A., 5001 N. Lincoln St., Chicago

**Forgings, Hollow Bored**  
American Hollow Boring Co., Erie, Pa.

**Forgings, Upset**  
American Forge Co., 2631 S. Hoyne Avenue,  
Chicago

**Furniture, Machine Shop**  
New Britain Machine Co., New Britain, Conn.

**Gauges, Piston and Piston Ring**  
Federal Products Corp'n, Providence, R. I.

**Gauges, Thread**  
Federal Products Corp'n, Providence, R. I.

**Grinding Machines, Belt**  
Gallmeyer & Livingston Co., Grand Rapids,  
Mich.  
Peerless Surfacing Machine Co., Troy, N. Y.

**Grinding Machines, Bench**  
Bodine Electric Co., 2256 W. Ohio St., Chicago  
Gallmeyer & Livingston Co., Grand Rapids,  
Mich.

**Grinding Machines, Cutter, Roamer and Tool**  
Gallmeyer & Livingston Co., Grand Rapids,  
Mich.  
Jarecki Mch. & T. Co., Grand Rapids, Mich.  
LeBlond Mch. Tool Co., R. K., Cincinnati, O.  
Thompson Grinder Co., Springfield, Ohio  
Wilmarth & Morman Co., Grand Rapids, Mich.

**Grinding Machines, Cylindrical**  
Jarecki Mch. & T. Co., Grand Rapids, Mich.  
Thompson Grinder Co., Springfield, Ohio

**Grinding Machines, Die**  
Gallmeyer & Livingston Co., Grand Rapids,  
Mich.  
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Thompson Grinder Co., Springfield, Ohio  
Wilmarth & Morman Co., Grand Rapids, Mich.

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Mich.  
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**Grinding Machines, Drill**  
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Mich.  
La Salle Tool Co., La Salle, Ill.  
Wilmarth & Morman Co., Grand Rapids, Mich.

**Grinding Machines, Face**  
Taylor & Fenn Co., Hartford, Conn.

**Grinding Machines, Internal**  
Taylor & Fenn Co., Hartford, Conn.  
Thompson Grinder Co., Springfield, Ohio  
Wilmarth & Morman Co., Grand Rapids, Mich.

**Grinding Machines, Portable Electric**  
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Independent Pneumatic Tool Co., 600 W.  
Jackson Blvd., Chicago  
Porter-Cable Machine Co., Syracuse, N. Y.  
Service Tool, Die & Mfg. Co., 2256 Walnut  
Street, Chicago  
Stow Flexible Shaft Co., Philadelphia, Pa.  
Strand Co., N. A., 5001 N. Lincoln St., Chicago  
Wisconsin Electric Co., Racine, Wis.

**Grinding Machines, Snagging**  
Gallmeyer & Livingston Co., Grand Rapids,  
Mich.  
Jarecki Mch. & T. Co., Grand Rapids, Mich.





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Wilmarth & Morman Co., Grand Rapids, Mich.

### Grinding Machines, Tap

Gallmeyer & Livingston Co., Grand Rapids, Mich.

### Grinding Machines, Tool

Taylor & Fenn Co., Hartford, Conn.

### Grinding Machines, Universal

Gallmeyer & Livingston Co., Grand Rapids, Mich.  
Thompson Grinder Co., Springfield, Ohio  
Wilmarth & Morman Co., Grand Rapids, Mich.

### Hack Saw Blades

Peerless Machine Co., Racine, Wis.

### Hack Saw Machines

Armstrong-Blum Mfg. Co., 341 N. Francisco Av., Chicago  
Peerless Machine Co., Racine, Wis.  
Racine Tool & Machine Co., Racine, Wis.

### Hammers, Air

Independent Pneumatic Tool Co., 600 W. Jackson Blvd., Chicago

### Hammers, Riveting

Independent Pneumatic Tool Co., 600 W. Jackson Blvd., Chicago

### Hardness Testers

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Thomas Elevator Co., 21 S. Hoyne Ave., Chicago

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National Machine Tool Co., Cincinnati  
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Norton-Broadway Mch. Co., Cincinnati, O.  
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Osborne & Sexton Machy. Co., Columbus, O.  
Oviatt & Co., D. C., Cleveland, O.  
Panneman Bros., 705 West Washington Blvd., Chicago  
Patterson Tool & Supply Co., Dayton, O.  
Peninsular Machinery Co., Detroit, Mich.  
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Reeve-Fritts Co., 37 S. Desplaines, Chicago  
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Russell Motor Axle Co., N. Detroit, Mich.  
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Seffrest-Eistad Machinery Co., Dayton, O.  
Simmons Machine Tool Corp., Albany, N. Y.  
Stocker-Rumely-Wacha Co., 117 N. Jefferson St., Chicago  
Stoehr Mch. Co., A. M., 844 N. Wells St., Chicago  
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### Tools, Lathe and Planer

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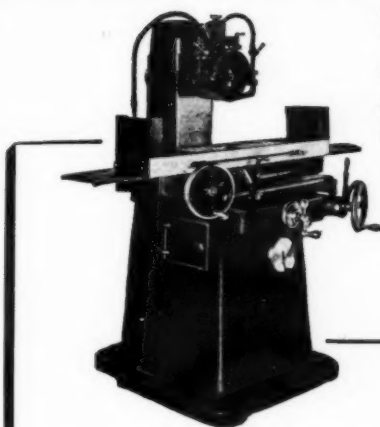
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## No. 78 Automatic Surface Grinder

Capacity  
8"x22"x11"

Grinding  
Wheel  
10"x1"

### *A Remarkable Machine for Production*

- ☐ The heaviest machine of its type and capacity.
- ☐ A machine of extreme precision, with the strength and rigidity for intensive grinding of a widely diversified range.
- ☐ All adjustments are within easy reach of the operator in his working position.
- ☐ Double elevating lead screws, with right and left hand thread, raise and lower the head.
- ☐ The large hand wheel, graduated by widely spaced markings to .0005", is conveniently located.
- ☐ Furnished with countershaft and W. & M. "Nelson Patent" Self-Oiling Loose Pulley, or arranged to be driven by a motor inside the base.

*Write for Catalog, showing many exclusive features*

## **Wilmarth & Morman Co.**

**Master Grinder Makers**

**1185 Monroe Ave., N. W.,**

**Grand Rapids, Mich., U. S. A.**



## All Steel Work Stands

Made of steel throughout, with or without casters and truck wheels, affording maximum strength with minimum weight; stability and durability without clumsiness. Welded gussets support trays. May be had with two or three trays and with or without drawers. Priced to make them a real economy. Shipped knocked down.

*Bulletin No. 1206 gives complete details.*

**The New Britain Machine Company**

**"Shop Furniture  
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